EFFECTIVENESS OF AMBULATION UPON FETOMATERNAL PARAMETERS DURING FIRST STAGE OF LABOUR

BY

MS A. SUJATHA

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

MARCH 2011

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DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of Ambulation Upon Fetomaternal Parameters During First Stage of Labour"** is the outcome of the original research work undertaken and carried out by me under the guidance of Dr**. Latha Venkatasen, M.Sc (N)., M.Phil., Ph.D.,** Principal and Professor in Obstetric and Gynecological Nursing, Apollo College of Nursing**,** Chennai. I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this university or any other university.

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ACKNOWLEDGEMENTS

Lord God almighty is praised for uttering profusely HIS blessings and guidance on me throughout my endeavor and sustained me in my hour of need.

I owe my deep sense of whole hearted gratitude to **Dr. Latha Venkatesan**, M.Sc (N)., M.Phil., Ph.D., Principal, Apollo College of Nursing for her elegant direction, expert guidance, innovative suggestion and constant motivation and extreme patience without which I would not have completed the dissertation successfully. I express my sincere gratitude to **Prof. Helen M. Perdita**, M.Sc (N)., Ph.D., Vice Principal and Research Cell coordinator, Apollo College of Nursing, for her splendid guidance and perusal in the study.

I express my heartfelt gratitude to my medical guide **Dr. Sarat Battina**, MD, D.G.O, Coordinator, Dept of Obstetrics & Gynecology, Apollo Hospitals, for his kind support and encouragement.

With special references, I thank the **Directorate of Medical and Rural Health Services**, Chennai, and I owe my genuine gratitude to **Medical Superintendent**, Government District Head Quarters Hospital, Kancheepuram for permitting me to conduct research study in the hospital.

I am especially grateful to my clinical guides DR .Latha Venkatesan M.Sc(N).,Apollo College of Nursing for their untiring intellectual guidance, concern patience, kind support, enlightening ideas and willingness to help at all times for the successful completion of the research work.

I am indeed grateful to **Ms. Lizy Sonia**, M.Sc(N)., professor and Research Guide, Apollo College of Nursing for her tremendous support and loving concern. I owe my genuine gratitude to **Faculties of Obstetric and Gynecological Nursing Department**, Apollo hospital, for their enlightening and brain storming ideas, continuous support, timely help and constructive efforts.

I extend my earnest gratitude to **G.K. Venkatraman** for his expert support in statistical analysis amidst of his hectic schedule.

It's my privilege to thank the **experts** who validated the study tool with their constructive and valuable suggestions. My special word of thanks to **Dr. Sushila**, M.Sc (N)., Ph.D., Principal cum Professor, Billroth College of Nursing, for validating the study tool.

I wish to acknowledge my heartfelt gratitude to all the **HOD's** and **faculty members** of Apollo College of Nursing. I extend my special thanks to the **Librarians** at Apollo College of Nursing and the Tamil Nadu Dr. M.G.R. Medical University.

I express my deep sense of gratitude to all the **Participants** in this study for their tremendous co-operation. At this juncture, it's my privilege to thank **my colleagues** who were the cornerstone in completion of this research work. An ovation of thanks to all the persons who have sailed with me and involved in the successful completion of this dissertation.

I am indebted to my beloved husband **Mr. D. Nixon** for all his love, patience, untiring efforts, constant encouragement and creative suggestions and my parents J.Arul & Vahini, my lovable children Nishu, Jinu, Rashima, brothers, sister-in-law, for their staking efforts, immeasurable pain and their affection and inspiration boosted up my morale.

SYNOPSIS

An experimental study was conducted to assess the effectiveness of Ambulatory Nursing Care among the parturient mothers during the first stage of labour at Government District Head Quarters Hospital, Kancheepuram.

The objectives of the study were

1. To assess the fetomaternal parameters and level of labor pain before and after therapy in control and experimental group of parturient mothers.
2. To compare the feto-maternal parameters and level of labor pain before and after the therapy in control and experimental group of parturient mothers.
3. To determine the level of satisfaction upon experimental group of parturient on ambulatory nursing care.
4. To find out the association between selected demographic variables and feto maternal parameters after the therapy in the control and experimental group of parturient mothers.
5. To find out the association between selected obstetric variables and feto maternal parameters after the therapy in the control and experimental group of parturient mothers.

The conceptual frame work of the study was developed on the basis of Roy's adaptation model. The study variables were the effectiveness of ambulatory nursing care and Fetomaternal Parameters Null hypothesis were formulated. The present study was conducted in labour ward at Government District Headquarters Hospital, Kancheepuram. The sample size was 60 primiparturient mothers and they were selected

at random, of which 30 were assigned to the control group and 30 were assigned to experimental group by systematic random sampling method.

Demographic variable proforma, obstetric variable proforma, modified pain intensity scale, WHO modified partogram and rating scale on satisfaction of ambulatory nursing care were the tools used. The tools were validated and reliability was established. After pilot study, the data for the main study was collected. The collected data was tabulated and analyzed using descriptive and inferential statistics.

Major findings of the study were:

- The frequency and percentage distribution of demographic variables of primi mothers in control group revealed that most of the parturient mothers were in the age group of 21-25 years (56.67%), doing moderate work (60%), and residing at urban area (53.33%). Half of them were living in joint family (50%).

- Most of the parturient mothers in the experimental group were belonged to the age group of 21-25 years (66.67%). Majority of them were doing moderate work (80%). Lived in joint family (76.67%), were residing at rural area (86.67%) and significant percentage of parturient mothers were educated up to primary school in control and experimental group (46.67%), (26.67%) respectively.

- The frequency and percentage of obstetric variables of primi mothers in control group revealed that Majority of the parturient mothers were above 145cm in height (70%). Most of them were above 145 cms in height (70%), had attended

antenatal visits 1- 3 times (53.33%) and half of the parturient mothers were in the gestational age between 39-40 weeks (50%).

- Majority of the study participants in the experimental group were in gestational age between 39-40 weeks (80%), obtained weight gain about 12 kg in the antenatal period (90%), were above 145cm in height (90%). Most of them were attended antenatal clinic more than three times (56.67%).

- All the participants in the control and experimental group had delivered through normal vaginal delivery without maternal and fetal complications, received no pain management during first stage of labour.

- The mean and standard deviation of pain scores of the control group parturient mothers were high in after therapy (M=7.99, SD= 0.534) compared to the level of pain score before therapy (M=6.64, SD=0.994). In the experimental group the pain score after therapy was low (M=5.05, SD=0.72) compared to the level of pain score before therapy (M=6.75, SD=0.75). The difference was found statistically significant at $p<0.001$. And can be attributed to the effectiveness of ambulatory nursing care.

- In the control group the mean and standard deviation of frequency of uterine contraction were high after therapy (M=3.1, SD=0.25) in comparison with before therapy (M=2.9, SD=0.49). The mean and standard deviation of uterine contraction duration was high before therapy (M=52.56, SD=5.93) compared to after therapy (M=48.3, SD=8.01). The difference was found statistically significant at $p <0.01$ level of confidence. The mean and standard deviation of

frequency of uterine contraction in experimental group was high before therapy (M=3.15, SD=0.30) in comparison with after therapy (M=2.22, SD=0.24). Duration of uterine contraction was low in before therapy (M=53.69, SD=6.31) than after therapy (M=68.10, SD=7.86). This shows that ambulation during first stage of labour increases the duration of uterine contraction and decreases the frequency of uterine contraction. The result was statically significant at 99.9% level of significance. Hence Null hypothesis Ho1 was rejected. The mean score of cervical dilation in the experimental group mothers was more (M=2.45, SD=0.17) than the control group of parturient mothers (M=2.03, SD=0.35).

- All the mothers in the experimental group were (100%) highly satisfied with ambulatory nursing care during the first stage of labour and none of them expressed low satisfaction with ambulatory nursing care.

- There was no significant association between the selected demographic variables and the fetomaternal parameters and selected obstetric variables and the fetomaternal parameters in control and experimental group of parturient mothers after therapy irrespective of the demographic variables all the fetomaternal parameters were same in control and experimental group. Hence no statistics could be calculated for association between labour pain and demographic variables before the therapy in control and experimental group. In the control and experimental group there was no significant association between the obstetric variables and fetomaternal parameters.

Recommendations

- The same study can be conducted on a lager sample to generalize the results.
- A comparative study can be conducted between primi and multigravidae.
- A comparative study can be conducted in different settings with similar facilities.
- A comparative study can be conducted between various alternative complementary and alternative therapies for labor pain management.

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CHAPTER – I

INTRODUCTION

Background of the study

The instant of birth is exquisite pain and joy are one at this moment

- Madline

Childbirth is the culmination of a human pregnancy or gestation period with the birth of one or more newborn infants from a women's uterus. Every woman giving birth is embarking on a wondrous journey. The labour process is an exciting and anxious time for the women and her significant others. They experience one of the most profound changes in their lives. The process normal human childbirth is categorized in three stages of labour, the first stage of labour starts classically when the effaced cervix is 3cm dilated.

Lowe (1987) through a descriptive study on parity and pain during parturition suggested pain during early labour and less pain during second stage than multiparous. Johansson et al (2000) assessed dimensions of pain during the progression of labour in 520 primiparous and 88 multiparaous and found that primiparous reported more intense sensory intense affective pain in all three stages of labour than the multiparas. Labour pain as stimuli of receptive neurons arising from contraction of the uterine muscles, which is referred to as visceral, pelvic and lumbar sacral areas .Champman (2002)

Components of labour process such as the power, passage, passenger and the psyche play major role in progress of labour. Like cardiac contractions labor contraction begins at a 'pacemaker' point location in the myometriun near one of the uterotubal

junctions. The basis of uterine contractility is the interaction between action and myocin in myometrial smooth muscles cells. Each contraction begins at the point and then sweeps down over the uterus as a wave. After a short rest period, another contraction is initiated and the downward sweep begins again. A contraction consists of three phases : the increment, when the intensity of the contraction increases, the acene, when the contraction is at its strong, and decrement, when the intensity decreases. Dilatation of cervix occurs for two reasons: first, uterine contractions gradually increases the cervical canal lumen by pulling the cervix up over the presenting part of the fetus. Second, the fluid filled membranes press against the cervix. Descent is the downward movement of the biparietal diameter of the fetal head within the pelvic inlet occurs because of pressure on the fetus by the uterine fundus (Pillitri)

Various positions that are commonly adopted by the mothers during first stage of labour are upright or vertical position and horizontal or lying down position. Robert (1981). Zalar elaborates that upright positions include standing, walking, sitting and squatting. Among these one of the best position is that ambulation which keep the mothers upright enabling them to move around as they feel as they need. Smith et al (1991) found that when given the choice, women changed position an average of 7-8 times in the course of their labour.

Albers et al., (1997) conducted a study on relationship of ambulation in labour to operative delivery. The association of ambulation in labour with operative delivery was examined in a low risk sample of women who did not receive care measures like epidural anesthetic, oxygen induction that precludes mobility in labour. The study

concluded that mothers who ambulated for a significant amount of time during labour had half the rate of operative delivery.

In early day no special attention or care was given to women during child birth, as birth and death were considered natural with pregnancy and delivery. Later, it was understood that when labour pain starts a healthy relaxed, homely atmosphere helped the women to undergo the physiological changes without risk. Major concern of mother during this labour is how they cope up with the pain. When the mother is offered with help to cope up with the pain, her natural process of labour becomes fruitful and meaningful. To have this fruitful experience, skillful maternity is essential right from the early first stage of labour. This is the ideal time for the midwife to identify any deviations that could arise intranatally, either in the mother or in the fetus which is to delivered in few hours.

Thus, the care during the first stage of labour is to provide comforts that would help the mothers to feel more confident in their ability to control pain and progress of labour and maintain physiological stability.

Need for the study

Pregnancy is one of the miracles of life .It is so amazing how a creature emerges from another creature, quite similar in genetic make-up but a totally different individual with a unique personality and a distinct characteristic. Child bearing is one of the complex process that all women who wants to have a child should undergo and it encompasses a lot of problem and complications.

Delivery of children is a natural process .Do it with minimum medical interventions, drugs etc. Modern medical methods are more suitable for the doctor than the mother. Walking around during labour is much more helpful to shorten the labour and make it easier than lying in bed. A Primigravida woman who was proud of pregnancy is fear some about the labour pain and outcome of labour. Jebapriya (2001).

In united kingdom among the live births only 46.7% had normal vaginal delivery was 23.5% had Cesarean section and 11% had instrumental delivery whereas in India nearly one third of the (4.3 million) child births in 2006 were delivered via Cesarean section, compared with one fifth in 1997 (birth choice professionals in 2006).

It is important for the nurse and the labouring mother to develop mutually acceptable goals for pain relief. The nurse can best facilitate this process by conducting through assessment implement timely interventions, provide non-pharmacological methods of pain relief alongside or separate from pharmacological methods and provide comprehensive health teaching regarding post partum pain.

Andrews (1990) indicates that adoption of upright position during labour will facilitate in effacing and dilating the cervix. Wong perry (1998) ambulation enhances the gravity effect that increases the contraction cycle and fetal descent, the weight of the fetus places increasing pressure on the cervix, the cervix is pulled upward, facilitating effacement and dilatation impulses from the cervix to the pituitary gland increase causing more oxytocin to be secreted and contractions are intensified, thereby applying more forceful downward pressure on the fetus, but they are less painful. Fetus is aligned with pelvis, and pelvis diameters are widened slightly.

Enkin et al (2000), ambulation should be encouraged if membranes are intact, if the fetal presenting part has not received medication for pain. Flynn (1978) in his randomized study on ambulation in labour, revealed that duration of labour was significantly shorter in the ambulant group than the when compared to recumbent group. Jebpriya (2001) highlighted in her study that ambulatory position is the best position than that of side lying and semi sitting position in view of the existence of positive relationship between the duration of labour. But it suggests ambulation appeared to be safe for the mother and fetus.

Trained birth attendants generally managed first stage of labour by providing back rub, emotional support while encouraging her to walk about. (Nandhini, 1990). Today in health care setting, health care consumers encounter economic climate that scrutinizes their health care services, so as health care personnel, it is our responsibility to think serious, how to provide quality patient care that constraints health care cost. Muni kumar (2002).

Thus by keeping the above said factors and responsibility in the mind, the researcher planned to conduct a study on ambulation which is one of the important nursing intervention that could be performed on the mother who are in the first stage of labour. Because this intervention can be performed without burdening mothers economically. This also satisfied the investigators interest in conducting research in labour room. For all the above said reasons, the investigator has chosen the following statement of the problem for her dissertation.

Statement of the Problem

An experimental study to assess the effectiveness of ambulatory nursing care upon fetomaternal parameters among primiparturient mothers during first stage of labour at Govt Head Quarters Hospital, Kancheepuram.

Objectives of the study

1. To assess the fetomaternal parameters and level of labor pain before and after ambulatory nursing care in control and experimental group of parturient mothers.
2. To compare the fetomaternal parameters and level of labor pain before and after the therapy in control and experimental group of parturient mothers.
3. To determine the level of satisfaction upon experimental group of parturient mothers on ambulatory nursing care.
4. To find out the association between selected demographic variables and feto maternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.
5. To find out the association between selected obstetric variables and fetomaternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.

Operational Definition

Effectiveness

In this study it refers to the outcome of the ambulatory nursing care among parturient mothers as measured in terms of enhancement of uterine contraction, intensity

of labor pain, progress in cervical dilatation, advancement in descent of fetal head and duration of length of labor which are assessed before and after therapy by modified pain intensity scale, modified WHO partograph and ambulation chart .

Ambulatory nursing care

The series of physical position given to women in labour including standing with legs apart, walking around for 20-30 minutes without any supportive aids.

First stage of labour

It begins with the onset of true labour contractions and ends with complete dilatation (10cm) and effacement (100%) of the cervix.

Fetomaternal parameters

The fetal heart rate, the maternal pulse rate, blood pressure, cervical dilatation, descents of head, frequency interval and duration of uterine contractions and duration of labour were the fetomaternal parameters assessed before and after the ambulatory nursing care through WHO Modified partograph.

Primi parturient

A woman pregnant first time without any complication is admitted for delivery in the first stage of labour.

Assumptions

The study assumes that:

- Ambulation enhances fetomaternal circulation.
- As the primiparous encounters labour for the first time at care compliance will be positive.
- Behaviour of the individual is influenced by the individual differences
- Pain in labor is progressive in nature**.**
- Women's pain during childbirth is influenced by a variety of physiological, psychological and environmental factors**.**
- The alleviation of pain is important**.**
- Non –pharmacological measures are simple, safe and inexpensive.

Null Hypotheses

Ho1: There will be no significant difference in feotomaternal parameters and level of labor pain before and after the therapy between control and experimental group of parturient mothers.

Ho2: There will be no association between selected demographic variables and feotomaternal parameters after the therapy in the control and experimental group of parturient mothers.

Ho3: There will be no association between selected obstetric variables and feoto-maternal parameters after the therapy in the control and experimental group of parturient mothers.

Delimitations

The study design was limited to primiparturient mothers who were

- admitted for delivery in Government District Head Quarters Hospital, Kancheepuram.
- willing to participate in the study.
- between 37-42 weeks of gestation in the first stage of labor.
- able to understand and speak Tamil and English.

Conceptual Frame work

The conceptual frame work deals with the inter-related concepts that are assessable together in some rationale schemes by virtue of their relevance to a common theme (Polit & Beck, 2004). Conceptual framework is a process of ideas, which are formed and utilized for the development of a research design. It helps the researcher to know what data needs to be collected and gives directions to an entire research process.

The conceptual frame work for the present study is based on Roy;s adaptation model. The Roy's adaptation model views the person as an adaptive system in constant interaction with an internal and external environment .The adaptive level made by the pooled effect of three classes of stimuli.

Focal stimuli

It is the most immediately challenging the person's adaptation. In this study focal stimulus was pain in first stage of labor.

Contexual stimuli

The contextual stimuli are all other stimuli existing in a situation that strengthen the effect of the focal stimulus.

Residual stimuli

Residual stimuli are other phenomena arising from a person's internal or external environment that may affect the focal stimulus but whose effects are unclear. The residual stimuli of the primiparturient mothers were age, education, type of work and type of family.

Control process

Regulator is sub –system of coping mechanism which responds automatically through neuro-chemical and endocrine functions. A cognator is the system coping mechanism which responds through complex process of perception and information processing, learning, judgement and emotion. In this present study administration of ambulation is the regulator the cognator is the act of coping mechanism.

Effectors

Effectors adaptive modes are the ways of coping that manifest the regulator or cognator activities (i.e,) physiological, self-concept, role function, interdependence. In the present study the effectors of primi parturient mothers were manifested as,

The physiological adaptive mode

Refers to the way a person responds as a physical being to stimuli from the environment. Labour process, pain perception and coping mechanism were the physiologic mode of parturient mothers.

The self concept adaptive mode

The women's feeling towards outcome of the labor process , acceptance and positive response were the self concept adaptive mode of parturient mothers.

Interdependent adaptive mode

The interdependent adaptive mode refers to coping mechanism arising from close relationship results in the giving and receiving love, respect and value. Lack of family support are causing indepent adaptive problems.

Role function adaptive mode

A role as the functioning unit of society is defined as a set of expectation about how a person occupying one position behaves toward a person occupying another person. In this present study coping abilities, health care provider, nurse-patient relationship, dependence on others and sharing needs.

Adoptive response

Adoptive responses are the responses that promote integrity of the persons in terms of goal of survival, growth and reproduction

Nurses play a vital role in pain management during first stage of labour by adopting various modalities in modern midwifery practice, (Non-pharmacological). So that the mothers will, co-operate effectively. Ambulation in first stage of labour empowers the women in labour, with confidence and support, that enhances independence and acts as self supportive throughout labour.

Researcher adopted this model and perceived in enabling to asses the effectiveness of ambulatory nursing care during first stage of labour to minimize pain, shorten the length of labour.

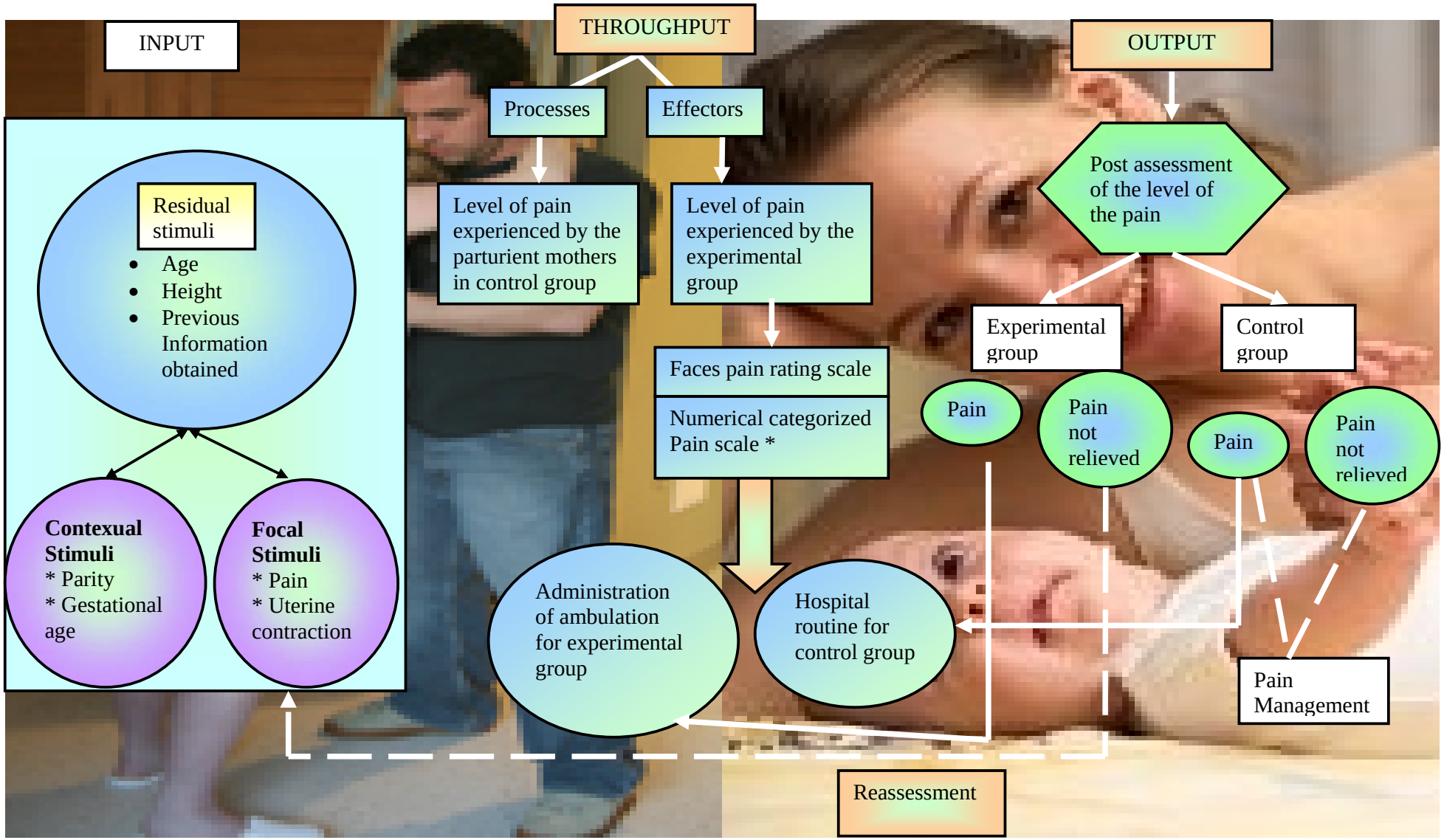

Fig.1 Conceptual Frame work based on Roy's Adaptation Model

Projected Outcome

Projected outcome of the study will reduce the intensity of level of pain, enhancement of uterine contraction, progress in cervical dilatation, advancement in descent of fetal head and shortening of length of labour.

Summary

This chapter has dealt with background of the study, need for the study, statement of the problem, objectives of the study, operational definitions, assumptions, Null hypotheses, delimitations and conceptual frame work.

Organisation of the report

Further aspects of the study are presented in the following five chapters

Chapter II - Review of literatures is presented.

Chapter III - Research methodology is presented which includes research design, setting, population, sample and sampling technique, data collection procedures and plan for data analysis.

Chapter IV - Analysis and interpretation of data is presented in terms of descriptive and inferential statistics.

Chapter V - Discussion is presented

Chapter VI - Summary, conclusion, implications, recommendations and limitations are presented.

CHAPTER - II

REVIEW OF LITERATURE

A literature review is an organized written presentation of what has been published on a topic by scholars (Burns & Groove, 2004)

This chapter deals with a review of published and unpublished research studies and from related material for the present study. The review helped the researcher to develop an insight into problem area. This helped the researcher in building the foundation of the study.

The review literature in this chapter has been presented under the following heading:

- Literatures related to physiology of labour
- Literatures related to various nursing intervention in the first stage of labour
- Literatures related to ambulation during first stage of labour.

Literatures related to physiology of labor

Perinatol (2000) conducted a observational study on duration of labour .The mean length of the active-phase, first stage was 7.7 hours for multiparas and 5.6 hours for multiparas. Descriptive statistics are reported for the duration of the active phase-first stage (4 cm to complete cervical dilatation) by parity and for subgroups of women according to race / ethnicity, age, insurance, activity in labour, type of fetal heart monitoring & narcotic analgesia.

A study was conducted on chronbiology of labour pain perception. The observation study was conducted in 222 consecutive nulIiparous women with uncomplicated pregnancy. Spontaneous labour, cervical dilation (3-5cm) ruptured membranes and normal fetal heart rate were studied. Visual analogue pain scores were analyzed and divided into four periods; nights, morning and evening VAPs were also compared between day time (morning and after noon) and nocturnal (evening and night) periods.Day time mean VAPs were lower than nocturnal scores (75.6 (15.1) Vs 85.7 (14.7), $p<0.0001$). The study concluded that labour pain perception appears to be chronobiological and this might be taken into account when enrolling parturient in studies designed to assess or treat labour pain. (Aye et al., 2004).

Greenberg et al .,(2007) conducted a retrospective cohort study between 1980-2001. Median length of labor were compared among 6 maternal age groups.Statistical comparisons were made using Krusal-wallis and Wilcoxon rank sum tests. Multivariable linear and logistic regression models were performed. Among 31,976 births ,length of labor differed significantly by maternal age for both nulliparous and multiparous women. Younger nulliparous women (age,<20 years) had a shorter median second stage by upto 97 minutes (P<.001)than older multiparas women (age,>39 yrs). The study concluded that length of labor and prolonged labor increases with increasing maternal age.

A prospective study on uterine contractions proceeding labor by Pates et al., (2007) at USA .The objective of this study was to evaluate whether 12 contractions in l hour is a meaningful signal that spontaneous labor has begun or is imminent. Eligible participants were 37 to 41 weeks of gestation, cervical dilation less than 4 cm, intact

membranes, and no other medical or obstetric complications that might influence admission. Each woman received external fetal monitoring for a minimum of one hour. Among 768 women studied, labor was diagnosed within 24 hours in 268(76%) with 12 or more contractions per hour P<.001. Cervical condition and fetal station were advanced on presentation in women with fewer than 12 or more contractions per hour.

In the year 2008, record of mechanisms of biochemical aspects of labour was dealt by Bernal. This study revealed that successful parturition requires an increases in coordinated uterine contractility together with changes in connective tissue so that it would allows cervical ripening and dilatation. The basis of uterine contractility is the interaction between action and myosin in myometrial smooth muscle cells.

Johansson et al., (2008) conducted a quantitative study to assess dimensions of Labor Stage. First physiology pain during the progression of labour in 50 primiparas and 88 multiparas and found that primiparas reported more intense sensory pain in stages one and three and more intense affective pain in all three stages of labour than the multiparas.

Literatures related to nursing intervention in the first stage labour

In Turkey a study was conducted to assess the effectiveness of breathing and massage during labor by Yildrim,(2000).This involved 40 cases by non random sampling. Data were obtained through the visual analogue scale,inspection form, observation form and postnatal interview form. The women during labor received nurse-administered massage and were encouraged to breathe and perform self administered massage. The study demonstrated that nursing support, patient directed

education concerning labor and non-pharmacological pain control methods were effective in reducing the perception of pain by pregnant women, leading to a more satisfactory birth experience.

Dawson (2001) conducted a descriptive study to assess the pain perception by laboring women and their attendant midwife from the onset of labor to delivery in Australia. The short form McGill Pain Questionnaire was used to determine pain perception. 13 labouring women and 9 midwives completed the SF-MPQ every 15 minutes beginning at the time of admittance to the delivery suite. On each measure of pain on the SF-MPQ, the midwives scores correlated with the mothers scores across the entire pain range. The result showed that mothers and midwives scores were similar at mild-moderate pain levels that mothers described as severe .The survey responses indicated that midwives rely on both verbal and nonverbal cues to assess pain levels.

The clinical study was performed to assess the effectiveness of massage on reducing pain and anxiety during labor by Pielvarzedeh et al., (2002). Sixty nulliparous women were selected randomly who were expected to have a normal child birth in the Jiroft City hospital.The nurse-rated PresentBehavioural Intensity (PBI) was used as a measure of the pain. Anxiety was measured by the visual analogue scale . Results of t-test analysis demonstrated that the experimental group had significantly lower pain reaction in all three phases and anxiety levels were significantly different between two groups only in latent phase (P=0.00).87% of cases in experimental group expressed that massage was helpful ,provided pain relief and psychological support during labor.

An experimental study was conducted by Adachi & stimada (2003) to determine the effect of the maternal position on labouring pain. The mothers assumed sitting and supine position alternately for 15 minutes during cervical dilatation from 6 to 8 hrs. the study concludes sitting positions offers an effective method to relieve lower back labour pain, pain on contraction and as well as those with continuous pain.

Cluet (2004) attempted a randomized controlled trial of labouring in water compared with standard of augmentation in first stage labour to evaluate the impact of labour in water during first stage of labour on rates of epidermal analgesia and operative delivery in nulliparous women. Primary outcome measure included epidural analgesia and operative delivery rates, while secondary outcome measures included length of labour, finally the study concluded that labouring in water under midwifery care may be an option for progress in labour and offers an alternative pain management strategy.

A clinical study has been undertaken by chany et al., (2006) to compare massage effects on labour pain. Sixty primiparas in labour were randomly assigned to either a massage or control group of three phases of cervical dilatation phase 1dilation (3-4cm), phase 2 dilatation (5-7cm) and phase 3 dilatation (8-10cm). The results of the study indicate that, although massage cannot change the characteristics of pain experienced by women in labour, it can effectively decreases labour pain intensity at phase 1 and phase 2 of cervical dilatation during labour.

A prospective longitudinal study has been undertaken by Pugh et al., (2008) to examine the relationship between the use of patterned breathing and the level of fatigue among primiparous women during the first stage of labour. The level of fatigue was

measured every two hours for six hours after admission. During the latent phase of labor, women using patterned breathing exhibited significantly more fatigue but not in active phase of labor. The result of the study indicate that patterned breathing cam be encouraged in active labour.

Clin (2008) conducted a study on augmentation to assess the labour pain, contractions and fatigue among primiparous. This randomized Cohart study was conducted at Sweden with 164 Primiparous as experimental group and 88 primiparous as control group. The result interpreted that duration of that second stage of labour was prolonged and more frequent operative deliveries in augmented group.

Literature related to ambulation during first stage of labour

Cito et al., (2005) conducted a study to determine whether maternal positions during the non-stress test (NST) influences fetal heart rate patterns. A total of 1055 NST lasting 30 minutes were performed in 368 mothers with low-risks pregnancies. Maternal positions were divided into three groups: reclining, sitting and walking. The cardiotocographic parameters considered were: number of minutes of reactive NST with minimum length, number of fetal movements, fetal heart rate baseline, and number of variable decelerations. Differences in heart rate were found in relationship to both gestational age and maternal position. The result of the study emphasized that Non – stress test during walking should be encouraged as fetal reactivity is more quickly observed.

Henriksson et al., (2005) in his study compared ambulation with oxytocin in the treatment of labour with a randomized controlled trail of 57 mothers. The study

demonstrated in the ambulant group, the mean length of second stage of labour was shorter and the mother themselves had positive views on their experiences.

Evaluation of ambulation during the first stage of labor on pain, patient satisfaction, obstetrical and perinatal outcomes in nullipara women was conducted by Miquelutti et al., (2007). This prospective, randomized, controlled trial included a group of 54 women who were informed and encouraged to walk, and control group of 53 women who were not given information. The study proved that ambulation is a safe and well accepted option for the women during first stage of labor.

A comparative study was conducted between walking and recumbent position among parturient mothers who were in the first stage of labour to asses the length of labor, type of labor and important outcomes of labor. A minimum of two review authors independently assessed each study in Townsville Hospital, Australia. A randomized quasi experimental study was used among 3706women. Overall ,the first stage of labor was approximately one hour shorter for women randomized to upright as opposed to recumbent positions (MD-0.99,95% CI-1.60 –0.39).Women randomized to walking were less likely to have epidural analgesia (RR0.83 95% CI 0.72-0.96). Lawrence et al., (2010).

In the year 2009, a comparative study was conducted between high dose of epidurals and walking to reduce instrumental vaginal delivery. The study was conducted on 1052 primiparous at United Kingdom. The women were randomized to high dose epidural and combined spinal epidural. The result was significant in maintaining normal leg power throughout laboring in both mobile groups.

Benragaya et al., (2009)conducted a prospective randomized study at Tunisia with two hundred uncomplicated term mothers who were randomly assigned to assess improvement of maternal out come and fetal out come by ambulation. The study results showed that ambulation reduces significantly the duration of first stage of labour ($p<0.001$), the pain intensity, the oxytocin consumption ,t he rate of delivery by cesarean section and of instrumental deliveries and also net improvement in the maternal and fetal outcome.

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Summary

This chapter has dealt with review of literatures related to the problem stated. The literatures presented here were extracted from 16 primary and 4 secondary sources. It has helped the researcher to design the study to develop the tool and plan the data collection procedure and to analyse the data.

CHAPTER – III

RESEARCH METHODLOGY

This chapter deals with the methodology adopted by the researcher for the study includes research approach, research design, the setting, population, sample and sampling technique, development and description tool, validity, reliability, pilot study, data collection procedure, plan for data analysis.

Research Approach

According to Polit and Beck (2008) experimental research the investigator controls the independent variable and randomly assigns subjects to different conditions. An experimental research is generally applied where the primary objective is to determine the extent to which a given procedure meets the desired results. In this study as the researcher wanted to assess the effectiveness of Ambulatory nursing care upon fetomaternal parameters, the experimental approach seemed to be the most appropriate approach.

Research Design

A research design incorporates the most important methodological design that a researcher works in conducting a research study (Polit and Beck 2004).

Time series design with multiple institution of treatment in the quasi experimental design was adopted for conducting the study. In this study the researcher assessed the level of labour pain for selected parturient mothers using modified pain scale, and Fetomaternal parameters with the help of WHO modified partograph for both

the control and experimental group before the therapy, then manipulated the independent variable. Ambulatory nursing care was administered only to the experimental group of primi parturient mothers.

Ambulatory nursing care was given for 20-30 minutes in latent phases of labour. The effectiveness of Ambulatory nursing care on dependent variable after therapy level of labour pain and feutomaternal parameters of the primiparturient mothers were assessed. Then the level of satisfaction on Ambulatory nursing care was assessed using rating scale only to experimental group.

The research design is represented diagrammatically as follows:

R **O1 X 02, 03 X 04, 05 X 06** **---------- 013 X 014**

R **01-02, 03-04, 05-06,** **---------- 013-014**

R **-** Randomization

01, 03, 05, 07, 09, 013 - Assessment before Ambulation every hour

X - Administration of Ambulation

02, 04, 06, 08, 010, 014 - Assessment after Ambulation every hour

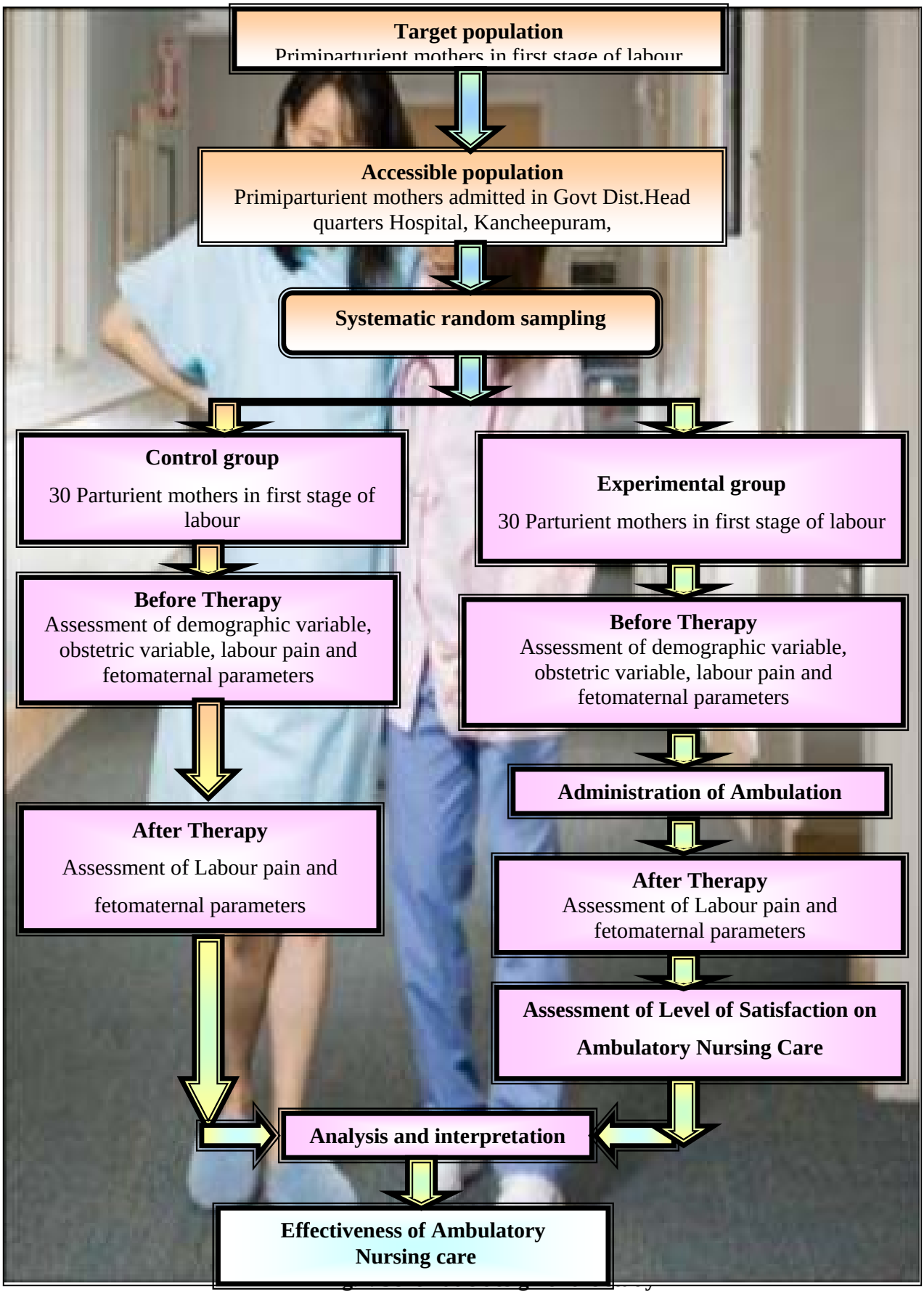

Fig.2. Schematic design of the study

Research setting of the study

The study was conducted in Government District Head Quarters Hospital, Kancheepuram. The hospital has labour room, postnatal ward, operation theatre, post operative ward, neonatal ICU, pediatric ward and outpatient department with scan facilities. An average of 80-100 primi parturient mothers are delivering through normal vaginal delivery in a month. The hospital has counseling for couple and family. . They give health teaching regarding antenatal care, reproductive health includes HIV and VDRL screening postnatal care, importance of breast feeding and immunization. The labour room has eight labour tables with all special equipments such as CTG machine, life saving equipments and emergency medications to manage the mothers on both normal and obstetrical emergencies.

Population

Population is the entire set of individuals or objects having some common characteristics. (Polit and Beck 2008). The **target population** is the entire population, in which a researcher is interested and to which he or she would like to generalize the study results. In this study, the target population comprises of all primi partiurent mothers in first stage of labour with labour pain. The **accessible population** is the list of population that the researcher finds in study area. The accessible population in this study was primi parturient mothers admitted for labour in the Government District Head Quarters Hospital, Kancheepuram.

Sample

Polit and Beck (2008) said that sample is a subset of population, selected to participate in a study. A sample of 60 primi parturient mothers in first stage of labor were selected for the study. In this 30 mothers were randomly assigned to control group and 30 mothers were assumed to experimental group.

Sampling technique

It was stated by Polit & Beck (2008) that sampling refers to the process of selecting a portion of the population to represent the entire population. The subject of the present study was selected by systematic random sampling technique, in which every odd number parturient mother was assigned to control group and every even number mother was assigned to experimental group. The mother who satisfied with the inclusion criteria was selected for the study

Sampling Criteria

Inclusion Criteria

The study includes mothers who:

Were delivering for first time

- Were between 38-42 weeks of gestation
- Were having labour pain in latent phase of 1st stage of labor
- could speak and understand Tamil & English
- were willing to participate in this study.

Exclusion criteria

The study excluded

- Mothers with any underlying disease such as pregnancy induced hypertension and diabetes mellitus.
- Mothers with complicated pregnancy like obstructed labour, multiple pregnancies and preterm labour
- Mothers who were not willing to participate in the study
- Mothers who cannot understand and speak Tamil or English.

Selection and development of the study instruments

As the study aimed to evaluate the effectiveness of Ambulatory nursing care in first stage of labour, the data collection instruments were developed through an extensive review of literature. The instruments used in this study were demographic variable proforma, obstetric variable proforma, modified pain intensity scale, with modified partograph, Ambulation chart and Rating scale on satisfactory of Ambulatory nursing care.

Demographic Variable Proforma

Demographic variable performa consists of age, educational status, type of family, type of work, area of residence, and previous information received regarding ambulatory nursing care.

Obstetric Variable Proforma

The Obstetric variable proforma includes gestational age in weeks, height, and weight gain during pregnancy, number of antenatal visits till date, and complications during antenatal period,pain management during first stage of labour, type of labour ,duration of first stage of labour, maternal and fetal complications during labour

Pain Rating Scale

0-10 pain intensity scale was used to assess the level of pain perceived by parturient mothers before and after Ambulatory nursing care by interviewing the mother.

WHO modified Partograph

This graph was used to asses the fetomaternal parameters such as fetal heart rate, blood pressure, maternal pulse rate, uterine contraction frequency and duration, cervical dilatation, and station of the fetal head.

Rating scale on level of satisfaction of Ambulatory Nursing Care

The rating scale was designed to assess the level of satisfaction of the parturient mothers regarding Ambulatory nursing care and this is assessed after the mother's delivery.

The satisfaction score were classified into 3 levels.

Score	**%**	**Level of satisfaction**
1-30	<50%	Low Satisfaction
31-45	51-75%	Moderate Satisfaction
46-60	>76%	High Satisfaction

Validity of Study Instruments

Content validity of the tool was obtained by getting opinion from seven experts in the field of Obstetrics and Gynecology. Three of the experts were doctors and three were nursing personnel and one biostatistician. The valuators had suggested some specific modification in the objectives and rating scale. The modification and suggestions of experts of experts were incorporated in the final preparation of the rating scale to assess the level of satisfaction of Ambulatory nursing care among parturient mothers.

Reliability of study instruments

The reliability of the tool was elicited by using the inter rater technique, karl Pearson's 'r' was computed for finding out the reliability. For pain scale, and WHO modified partograph. The 'r' was found to be 0.9 which shows positive correlation, indicates that the tools are highly reliable.

Pilot study

Polit and Hungler (2004) states that a pilot study is a miniative of some parts of actual study in which the instruments are administered to the subjects drawn from the same population. It is a small scale version or trial run done in preparation for a major study. The purpose is to find out the feasibility and practicability of the study.

Pilot study was conducted on 10 primigravidae in control and experimental group. The subjects were chosen by systematic random sampling at C.S.I. Hospital, Kancheepuram using the demographic variable proforma, simplified partograph

obstetric variable proforma pain intensity scale rating scale on satisfaction, data were collected and analysis was done. The study was found to be feasible, accepted and easy to understand by the parturient mothers.

Intervention Protocol

Ambulatory nursing care is one of the non-pharmacological interventions which is used to reduce the length of labour, improve, the duration of contraction ,enhance the station descent and reduce the intensity of pain level. Ambulation can be given to parturient mothers for 20-30 minutes without any supportive aid.

Data collection procedure

Data collection is gathering of information and needed to address a research problem. The research proposal was presented to the ethical committee, Apollo Hospital for the ethical and scientific consideration to proceed with data collection. Data was collected round the clock from June to July 2010.

Researcher collected data from parturient mothers and from their case sheet. The parturient mothers were selected by using systematic random sampling technique i.e. odd number was assigned to control group and every even number was assigned to the experimental group. Written consent was taken from the parturient mothers, rapport was established by a brief introduction about the research purpose and tool used by the investigator. The subject was assured for confidentiality and explained about Ambulatory nursing care.

The parturient mothers in the control and experimental group ,before the therapy were assessed with the following proformas like demographic variables, obstetric

variables, level of labor pain using Pain Scale, Fetomaternal parameters with the help of the WHO modified Partograph. Every one hour, after the therapy the level of pain and fetomaternal parameters were assessed in both control and experimental group of parturient mothers. After the delivery in the experimental group the level of satisfaction was assessed using the rating scale on the level of satisfaction on ambulatory nursing care.

Problems faced during data collection

- Some of the primigravidae were not willing to participate in the study.

Plan for data analysis

Data analysis is the systematic organization and synthesis of research data and testing of research hypothesis by using the obtained data (Polit & Beck 2004). Analysis and interpretation of data were carried out with descriptive statistics like frequency distribution, percentage, mean, stand deviation and inferential statistics like paired 't' test. The association between the demographic variables, obstetric variables and dependent variables were analyzed with the help of ANOVA.

Summary

This chapter dealt with the research approach, research design, setting, population and sample, sampling technique, sampling criteria, selection and development of study instruments, validity and reliability of the instruments, pilot study, data collection procedure and plan for data analysis.

CHAPTER – IV

ANALYSIS AND INTERPRETATION

This chapter includes both descriptive and inferential statistics. Statistics is a field of study concerned with techniques or methods of data collection, classification, summarizing, interpretation, drawing, inferences, testing of hypothesis, making recommendations, etc. Mahajan, (2004).

The data collected from 60 parturient mothers, 30 mothers in experimental group and 30 in control group to assess the effectiveness of ambulation during first stage labour upon feotomaternal parameters. The data were analysed according to the objectives and hypotheses of the study. Data analysis was completed after all the data was transferred to master coding sheet by the researcher using descriptive and inferential statistics.

Organization of Findings

- Frequency and percentage distribution of demographic variables, obstetric variables before and after ambulatory nursing care in the control and experimental group of parturient mothers.
- Comparison of mean and standard deviation of fetomaternal parameters, level of labour pain before and after ambulatory nursing care in the control and experimental group of parturient mothers.
- Association between the selected demographic variables and fetomaternal parameters, selected obstetric variables and fetomaternal parameters before and after ambulatory nursing care in the control and experimental group of parturient mothers.

Table 1

Frequency and Percentage Distribution of Demographic Variables of Parturient Mothers of Control and Experimental Group (Age, Education, Type of work, Type of family, Area of residence)

(N=60)

	Control group		Experimental group	
Demographic Variables	**F**	**p**	**f**	**p**
Age in years				
≤20	-	-	-	-
21 to 25	17	56.67	20	66.67
26 to 30	13	43.33	10	33.33
>30	-	-	-	-
Type of work				
Sedentary worker	8	26.67	5	16.67
Moderate worker	18	60.00	24	80.00
Heavy worker	4	13.33	1	3.33
Type of family				
Nuclear	15	50.00	7	23.33
Joint	15	50.00	23	76.67
Area of residence				
Urban	16	53.33	0	0.00
Rural	11	36.67	26	86.67
Semi urban	3	10.00	4	13.33

It can be noted from Table 1 that in the control group most of the study participants were in the age group of 21-25 years (56.67%), belonged to moderate worker (60%), half of them were living in Joint family (50%) and residing at urban area (53.3%).

Most of the parturient mothers in the experimental group were in the age group between 21-25years(66.67%),majority of them were moderate workers (80%), were living in joint family(76.67%), residing at rural area (86.67%).

Fig 3 shows that significant number of the parturient mothers were educated up to primary school level (46.67%, 36.67%) in control and experimental group respectively.

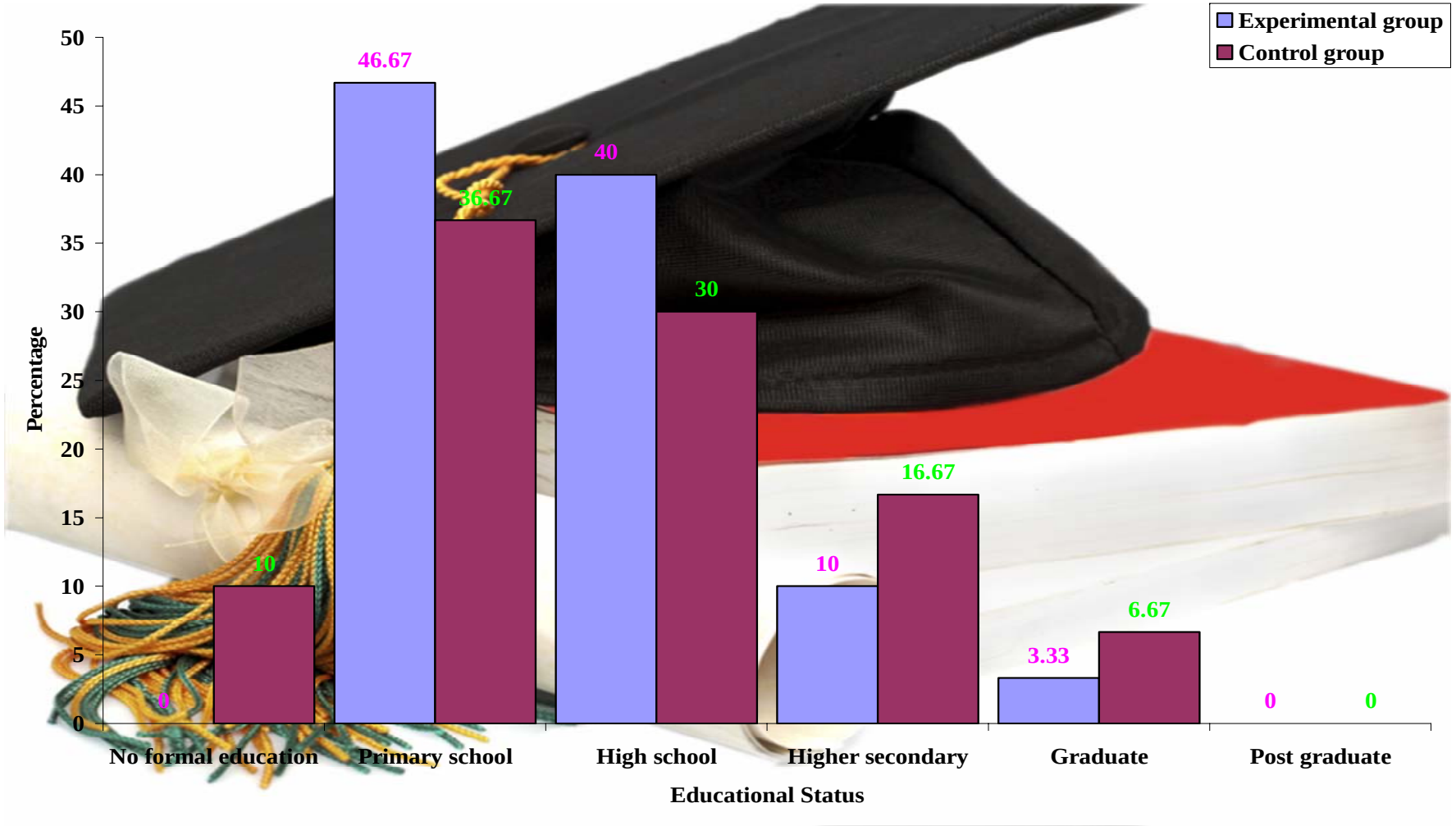

Fig 3 Percentage distribution of educational status in control and experimental group of parturient mothers

Table 2

Frequency and Percentage Distribution of Obstetric Variables of Parturient Mothers of Control and Experimental Groups (gestational age in weeks, height in cms, weight gain during pregnancy, number of antenatal visits, complications during antenatal period, pain management during labour,type of delivery ,duration of labour ,maternal and fetal complications during labour).

(N=60)

Obstetric l Variables	Control group (n=30)		Experimental group (n=30)	
	f	p	f	p
Gestational Age in weeks				
37 to 38	1	3.33	-	-
39 to 40	15	50.00	24	80.00
41 to 42	14	46.67	6	20.00
Height in cms				
<145 cm	9	30.00	3	10.00
>145 cm	21	70.00	27	90.00
Weight gain during pregnancy				
10 kg	-	-	-	-
12 kg	24	80.00	27	90.00
>12 kg	14	20.00	3	10.00
Number of antenatal visit				
No visit	4	13.33	-	-
1 to 3 times	16	53.33	13	43.33
>3 times	10	33.33	17	56.67

Pain management during first stage of labour				
Systemic analgesia	-	-	-	-
Inhalation analgesia	-	-	-	-
Epidural analgesia	-	-	-	-
Combined Spinal Epidural analgesia	-	-	-	-
None	30	100	30	100
Type of delivery				
Normal vaginal delivery	30	100	30	100
Forceps delivery	-	-	-	-
Vacuum delivery	-	-	-	-
Lower segment cesarean section	-	-	-	-
Maternal complications during delivery				
Shoulder dystocia	-	-	-	-
Postpartum hemorrhage	-	-	-	-
Dysfunctional labour	-	-	-	-
None	30	100	30	100
Fetal Complications				
Prolapsed cord	-	-	-	-
Respiratory distress syndrome	-	-	-	-
Meconium Aspiration Syndrome	-	-	-	-
Asphyxia Neonatorum	-	-	-	-
None	30	100	30	100

The data presented in the Table 2 shows that half of the parturient mothers in control group belonged to the gestational age between 39-40weeks (50%), most of them were above 145cm in height (70%). Majority of them were gained weight about 12kg during pregnancy (80%), most of them had antenatal visit 1-3 times (53.33%).

Majority of the study participants in the experimental group were in the gestational age between 39-40 weeks (80%), obtained weight gain about 12kg in the antenatal period (80%). Most of them had attended antenatal clinic more than 3 times (56.67%). All of them delivered normally received no pain management and none of them developed either maternal or fetal complications during labour in both the groups.

The percentage distribution of duration of first stage of labour as shown in Fig 3 revealed that 70% of them had <6hours in the experimental group whereas none of them in the control group.

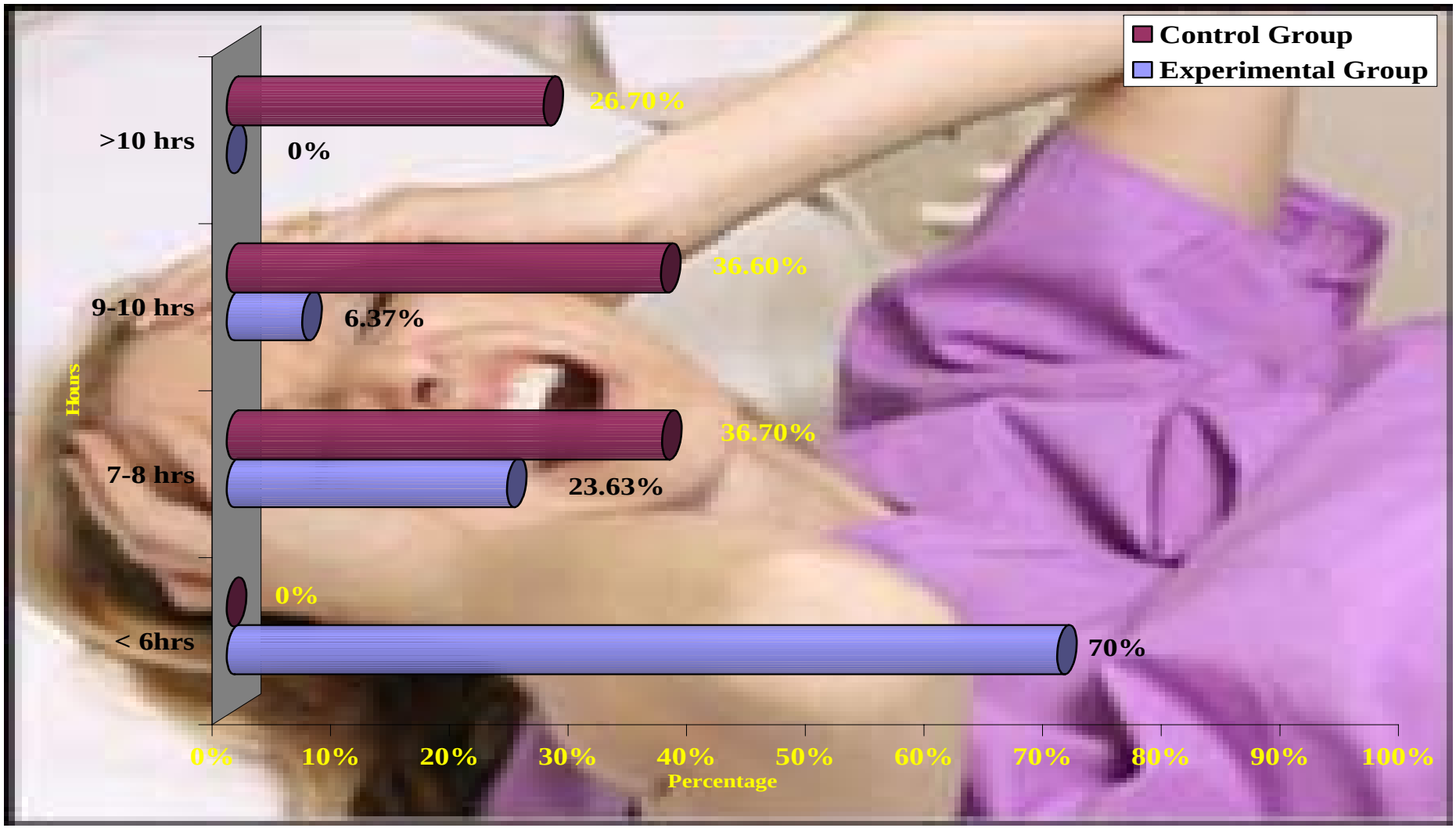

Fig. 4 Percentage distribution of Duration of First stage of Labour in Control and Experimental Group of Parturient mothers.

Table 3

Comparison of Mean and Standard Deviation of Feotomaternal Parameters Before and After Ambulation in Control and Experimental Group of Parturient Mothers.

(N=60)

Feotomaternal parameters	Before therapy		After therapy		't' value
	M	SD	M	SD	
Control Group					
Fetal Heart Rate	148.60	50.30	139.23	2.41	-1.031
Maternal Pulse Rate	82.66	8.35	82.18	6.84	-1.022
Uterine Contraction Frequency	2.9	0.49	3.1	0.25	2.31*
Uterine Contraction Duration	52.56	5.93	48.3	8.01	0.16*
Systolic Blood Pressure	118.25	11.61	114.85	7.45	1.694
Diastolic Blood Pressure	74.81	6.92	74.52	3.43	0.227
Cervical dilatation	1.03	0.18	2.03	0.35	16.33
Station descent	-2.00	0.0	-0.82	0.52	12.41
Experimental Group					
Fetal Heart Rate	139.45	1.56	139.58	1.55	1.466
Maternal Pulse Rate	80.63	0.45	80.67	0.76	0.249
Uterine Contraction Frequency	3.15	0.30	2.22	0.24	16.38
Uterine Contraction Duration	53.69	6.31	68.10	7.86	9.02***
Systolic Blood Pressure	116.75	2.912	117.64	2.60	1.27
Diastolic Blood Pressure	78.15	2.93	77.59	4.39	1.363
Cervical dilatation	1.00	0.0	2.45	0.17	46.08***
Station descent	-2.00	0.0	-0.09	0.59	17.78***

***P<0.001

It can be inferred from Table 3 that mean and standard deviation of frequency of uterine contraction in control group was high in after therapy (M=3.1,SD=0.25) in comparison with before therapy(M=2.9,SD=0.49) .The difference was found statistically significant at 95% level of significance. Hence the Null hypothesis Ho1 was rejected.

The mean and standard deviation of frequency of uterine contraction in experimental group was high before therapy (M=3.15, SD=0.30) in comparison with after therapy (M=2.22, SD=0.24). Duration of uterine contraction was low in before therapy (M=53.69, SD=6.31) than after therapy (M=68.10, SD=7.86). This shows that ambulation during first stage of labour increases the duration of uterine contraction and decreases the frequency of uterine contraction. The result was statically significant at 99.9% level of significance. Hence Null hypothesis Ho1 was rejected.

Table 4

Comparison of Mean and Standard Deviation of Level of Labour Pain Before and After Therapy in Control and Experimental Group of Parturient Mothers.

(N=60)

Group	Before therapy		After therapy		t' value
	Mean	S.D	Mean	S.D	
Control Group	6.64	0.82	7.80	0.56	-7.398
Experimental Group	6.15	0.75	5.05	0.72	12.398***

***p<0.001

It can be inferred from Table 4 that mean and standard deviation of pain score of experimental parturient mothers were low in after therapy (M=5.05, SD=0.72) in comparison with before therapy level of pain score (M6.15, SD=0.75). In control group after therapy pain score was high (M=7.99, SD=0.534) in comparison with the level of pain score before therapy (M=6.64, SD=0.9994). The difference was found statistically significant at 99% level of significance and can be attributed to the effectiveness of Ambulation during first stage of labour. Thus the null hypothesis Ho1 was rejected.

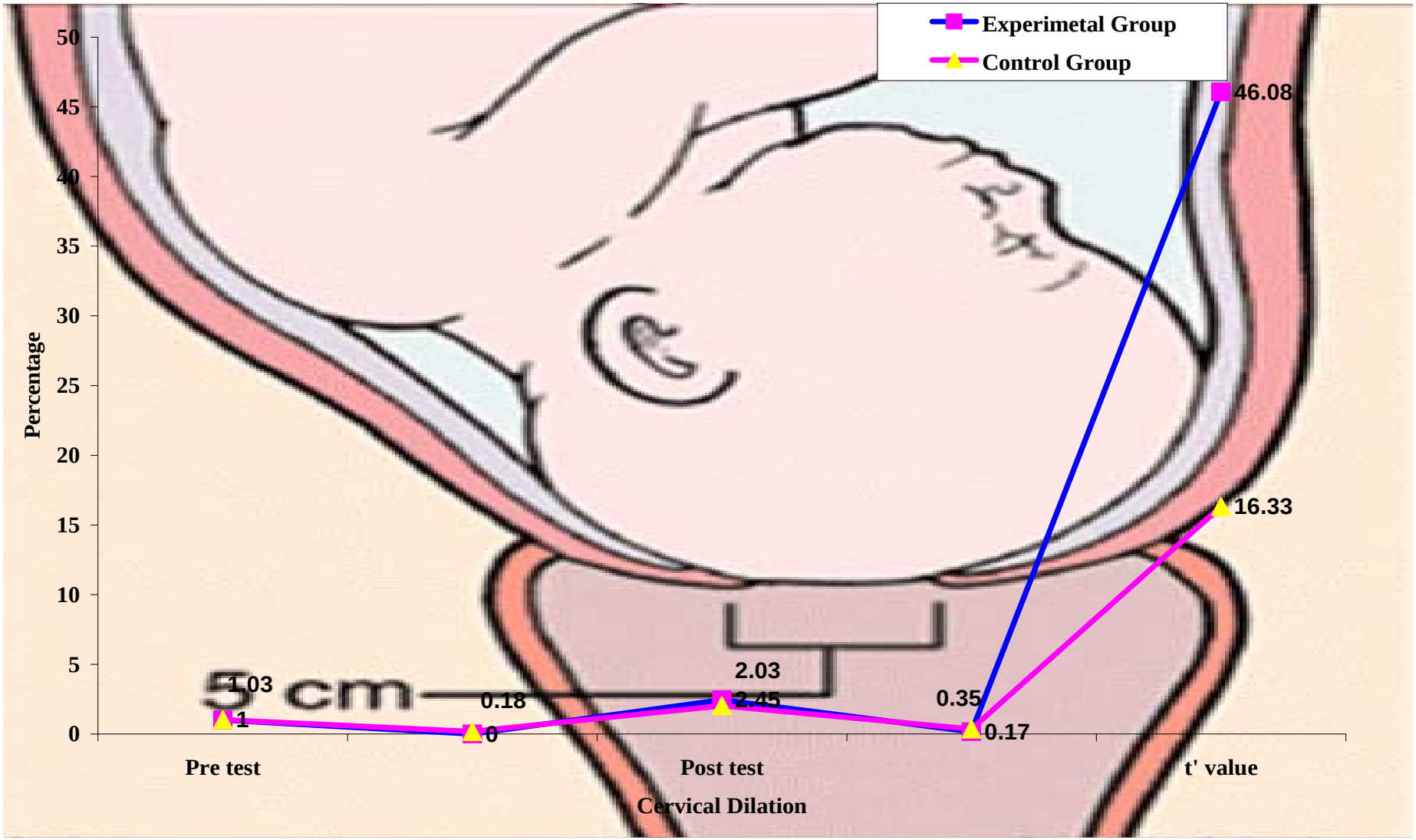

Fig. 5. Mean Distribution of Cervical Distribution in Control and Experimental Group of Parturient Mothers

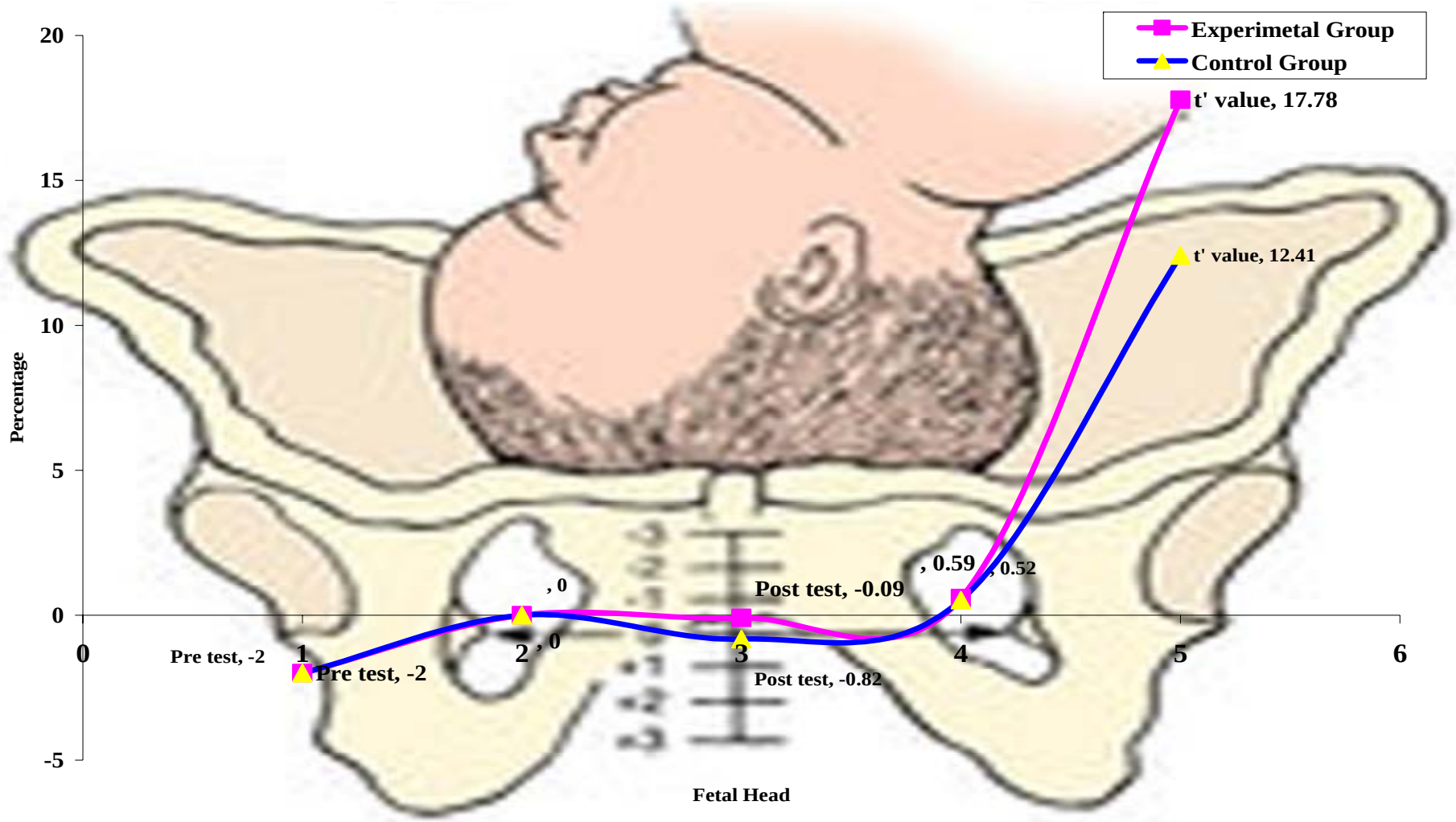

Fig 6 Mean Distribution of Fetal Head Descent in Control and Experimental Group of Parturient Mothers.

Table 5

Frequency and Percentage Distribution of Level of Satisfaction on Ambulatory Nursing Care in Experimental Group of Parturient Mothers.

(N=30)

Level of satisfaction	Experimental Group	
	f	p
Low	-	-
Moderate	-	-
High	30	100

The data presented in Table 5 reveals that all the mothers (100%) in the experimental group were highly satisfied with ambulatory nursing care during the first stage of labour and none of the mothers expressed low satisfaction with ambulatory nursing care.

Table 6

Association between the Selected Demographic Variables and Fetal Heart Rate after therapy in Control and Experimental Group of Parturient Mothers. (Age, Educational status, Type of work, Type of Family, Area of Residence)

(N=60)

Demographic variables	Control group (n=30)			Experimental group (n=30)		
	Mean	**SD**	**'t' Value**	**Mean**	**SD**	**'t' Value**
Age in years						
≤20	-	-		-	-	
21 to 25	138.84	2.76	-1.076	139.64	1.30	0.290
26 to 30	139.74	1.83		139.44	2.03	
>30	-	-		-	-	
Education						
No formal education	138.20	3.75				
Primary school	139.27	2.25	0.572	139.98	1.08	0.912
High school	139.82	1.82		139.11	2.09	
Higher secondary	138.12	3.31		139.63	0.78	
Graduate	140.05	2.19		139.20	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	140.27	1.06	1.040	138.98	2.85	1.799
Moderate worker	138.85	2.78		139.66	1.22	
Heavy worker	138.80	2.31		140.50	-	
Type of family						
Nuclear	139.10	2.69	-0.284	139.68	1.25	-0.701
Joint	139.35	2.17		139.22	2.39	
Area of residence						
Urban	139.27	2.69		-	-	0.249
Rural	138.98	2.28	0.157	139.57	1.65	
Semi urban	139.87	1.52		139.62	0.63	

It was observed from Table 6 there was no significant association between the selected demographic variables such as age, educational status, type of work ,type of family ,area of residence ,and the fetal heart rate and. Hence Null hypothesis Ho2 was accepted.

Table 7

Association between the Selected Demographic Variables and Maternal Pulse Rate in Control and Experimental Group of Parturient Mothers. (Age, Educational Status, Type of work, Type of Family, Area of Residence).

(N=60)

Demographic variables	Control Group (n=30)			Experimental Group (n=30)		
	Mean	SD	't' Value	Mean	SD	't' Value
Age in years						
≤20	-	-	1.359	-	-	0.545
21 to 25	81.16	1.02		80.73	0.68	
26 to 30	80.67	0.96		80.55	0.93	
>30	-	-		-	-	
Education						
No formal education	80.63	1.70	0.718	-	-	1.096
Primary school	81.25	0.81		80.56	0.63	
High school	80.57	0.86		80.82	0.89	
Higher secondary	81.22	1.16		80.23	0.68	
Graduate	80.80	1.69		81.60	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	80.47	0.76	1.984	80.84	1.20	0.497
Moderate worker	81.24	1.01		80.66	0.67	
Heavy worker	80.60	1.20		80.00	-	
Type of family						
Nuclear	81.00	1.13	0.267	139.68	1.25	-0.701
Joint	80.90	0.91		139.22	2.39	
Area of residence						
Urban	81.02	1.12	0.121	-	-	0.249
Rural	80.83	0.93		139.57	1.65	
Semi urban	81.00	1.00		139.62	0.63	

It was noted from Table 7 that there was no significant association between the selected demographic variables such as Age, Educational status, Type of work, Type of family and the Area of residence and Maternal pulse rate..Hence null hypothesis Ho2 was accepted.

Table 8

Association between the Selected Demographic Variable sand Contraction Duration in Control and Experimental Group of Parturient Mothers. (Age, Educational status, Type of work, Type of Family,Area of Residence)

(N=60)

	Control Group			Experimental Group		
	Post test		ANOVA/	Post test		ANOVA/
Demographic Variables	**Mean**	**S.D**	**'t' Value**	**Mean**	**S.D**	**'t' Value**
Age in years						
≤20	-	-	-0.436	-	-	0.089
21 to 25	34.38	4.54		44.08	15.77	
26 to 30	35.15	4.99		43.55	15.46	
>30	-	-		-	-	
Education						
No formal education	31.33	2.31		-	-	
Primary school	35.27	4.97	1.581	44.03	13.19	0.461
High school	32.89	3.10		41.40	14.70	
Higher secondary	37.56	2.82		53.43	30.76	
Graduate	37.85	11.81		43.50	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	32.37	2.68	1.677	39.02	4.24	0.323
Moderate worker	35.58	5.04		45.05	17.0	
Heavy worker	34.12	5.20		40.80	-	
Type of family			0.381			-0.105
Nuclear	35.05	5.74		43.71	14.34	
Joint	34.39	3.48		44.56	19.80	
Area of residence						
Urban	34.77	5.13	1.130	-	-	-0.524
Rural	33.68	2.98		43.02	14.00	
Semi urban	38.23	7.12		49.65	24.67	

Table 8 denotes that there was no significant association between the selected demographic variables such as Age, Educational status, Type of work, Type of family, Area residence and Contraction duration. Hence null hypothesis Ho2 was accepted.

Table 9

Association between the Selected Demographic Variable and Contraction Frequency in Control and Experimental Group of Parturient Mothers. (Age, Educational status, Type of work, Type of Family,Area of Residence)

(N=60)

	Control Group			Experimental Group		
	Post test		ANOVA/	Post test		ANOVA/
Demographic Variables	**Mean**	**S.D**	**'t' Value**	**Mean**	**S.D**	**'t' Value**
Age in years						
≤20	-	-	1.094	-	-	1.461
21 to 25	13.13	2.20		15.99	10.39	
26 to 30	12.13	2.69		11.87	5.08	
>30	-	-		-	-	
Education						
No formal education	13.10	2.42		-	-	
Primary school	12.36	2.69	0.983	15.48	10.00	0.140
High school	13.37	2.63		13.97	8.86	
Higher secondary	11.23	1.56		14.77	9.79	
Graduate	14.55	0.07		9.90	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	12.50	3.14	0.132	10.84	0.78	0.666
Moderate worker	12.88	2.19		15.59	9.96	
Heavy worker	12.26	2.59		10.30	-	
Type of family			1.097			0.835
Nuclear	13.18	2.34		15.22	9.87	
Joint	12.21	2.52		12.66	6.01	
Area of residence						
Urban	13.25	1.69	1.459	-	-	0.300
Rural	11.71	3.16		14.80	9.33	
Semi urban	13.37	2.49		13.42	8.44	

It was noted from Table 9 that there was no significant association between the selected demographic variables such as Age, Educational status, Type of work, Type of family, Area residence and Contraction frequency. Hence null hypothesis Ho2 was accepted.

Table 10

Association between the Selected Demographic Variable and Cervical Dilatation in Control and Experimental Group of Parturient Mothers. (Age, Educational status, Type of work,Type of Family, Area of Residence)

(N=60)

	Control Group			Experimental Group		
	Post test		ANOVA/	Post test		ANOVA/
Demographic Variables	**Mean**	**S.D**	**'t' Value**	**Mean**	**S.D**	**'t' Value**
Age in years						
≤20	-	-	-1.545	-	-	2.267
21 to 25	1.59	0.37		2.41	0.18	
26 to 30	1.81	0.41		2.53	0.10	
>30	-	-		-	-	
Education						
No formal education	1.43	0.11		-	-	
Primary school	1.63	0.44	1.030	2.41	0.19	0.605
High school	1.70	0.33		2.48	0.15	
Higher secondary	1.77	0.47		2.43	0.21	
Graduate	2.12	0.53		2.60	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	1.41	0.18	2.970	2.54	0.13	1.391
Moderate worker	1.78	0.45		2.42	0.17	
Heavy worker	1.81	0.24		2.60	-	
Type of family			0.293			-0.639
Nuclear	1.71	0.42		2.44	0.17	
Joint	1.67	0.39		2.48	0.17	
Area of residence						
Urban	1.80	0.41	1.879	-	-	-1.071
Rural	1.51	0.26		2.44	0.18	
Semi urban	1.75	0.66		2.50	0.08	

Table 10 depicts that there was no significant association between the selected demographic variables such as Age, Educational status, Type of work, Type of family and the Area residence and cervical dilatation. Hence null hypothesis Ho2 was accepted.

Table 11

Association between the Selected Demographic Variable and Station of Fetal Head in Control and Experimental Group of Parturient Mothers. (Age, Educational status, Type of work, Type of Family,Area of Residence)

(N=60)

	Control Group			Experimental Group		
	Post test		ANOVA/	Post test		ANOVA/
Demographic Variables	**Mean**	**S.D**	**'t' Value**	**Mean**	**S.D**	**'t' Value**
Age in years						
≤20	-	-	-0.500	-	-	0.088
21 to 25	-1.41	0.94		-0.81	0.60	
26 to 30	-1.23	1.01		-0.83	0.34	
>30	-	-		-	-	
Education						
No formal education	-1.33	1.15		-	-	
Primary school	-1.45	0.93	0.113	-0.89	0.34	1.256
High school	-1.33	1.00		-0.62	0.69	
Higher secondary	-1.20	1.09		-1.2	0.17	
Graduate	-1.00	1.41		-1.0	-	
Post graduate	-	-		-	-	
Type of work						
Sedentary worker	-2.00	0.00	3.643	-0.76	0.22	0.088
Moderate worker	-1.00	1.03		-0.82	0.57	
Heavy worker	-1.50	1.00		-1.0	-	
Type of family			0.000			0.726
Nuclear	-1.33	0.97		-0.79	0.57	
Joint	-1.33	0.97		-0.91	0.32	
Area of residence						
Urban	-1.25	1.00	0.139	-	-	2.785
Rural	-1.45	0.93		0.77	0.10	
Semi urban	-1.33	1.15		-1.15	0.09	

It can be inferred from Table 11 that there was no significant association between the selected demographic variables such as Age, Educational status, Type of work, Type of family and the Area of residence and Station of fetal head. Hence null hypothesis Ho2 was accepted.

Table 12

Association between the Selected Obstetrical Variables and Fetal Heart Rate in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period).

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/ 't' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37to38	138.40	-	1.482	-	-	0.249
39 to 40	138.54	2.24		139.61	1.63	
41 to 42	140.02	2.49		139.45	1.33	
Height in cms			-0.748			
<145 cm	138.68	2.77		139.58	1.55	-
>145 cm	139.46	2.26		-	-	
Weight gain during pregnancy			0.813			-0.413
10 kg	-	-		-	-	
12 kg	139.65	2.80		139.22	2.59	
>12 kg	138.90	2.08		139.67	1.23	
Number of antenatal visit						
No visit	138.72	2.09	0.549	-	-	-0.938
1 to 3 times	138.94	2.75		139.25	2.06	
>3 times	139.88	1.95		139.83	1.00	
Complications during antenatal period						
Anemia	138.62	3.26	-1.102	-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	139.69	1.41		139.58	1.55	
Duration of first stage of labour						
≤ 6 hours	138.72	2.80	1.326	139.22	2.50	0.543
7-8 hours	139.64	2.75		139.65	2.80	
9-10 hours	130.88	1.41		139.88	1.95	

Table 12 denotes that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period and fetal heart rate. Hence null hypothesis Ho3 was accepted.

Table 13

Association between the Selected Obstetrical Variables and Maternal Pulse Rate in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, Height in cms,Weight gain during pregnancy,duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period)

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/ 't' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37to 38	81.60	-	0.686	-	-	0.697
39 to 40	81.11	0.90		80.72	0.78	
41 to 42	80.73	1.14		80.48	0.72	
Height in cms						
<145 cm	80.72	1.08	-0.776	80.67	0.76	-
>145 cm	81.05	0.99		-	-	
Weight gain during pregnancy			= 0.370			-0.320
10 kg	-	-		-	-	
12 kg	81.03	1.11		80.55	1.09	
>12 kg	80.89	0.96		80.70	0.68	
Number of antenatal visit			1.273			1.588
No visit	80.42	1.06		-	-	
1 to 3 times	81.21	1.06		80.92	0.83	
>3 times	80.75	0.86		80.48	0.66	
Complications during antenatal period						
Anemia	81.30	1.24	1.60	-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	80.68	0.72		80.67	0.76	
Duration of first stage of labour						
< 6 hours	82.03	1.11	1.379	80.92	1.09	0.750
7-8 hours	80.40	0.96		80.70	0.83	
9-10 hours	81.21	0.86		88.02	0.76	

Table 13 depicts that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period and maternal pulse rate. Hence null hypothesis Ho3 was accepted.

Table 14

Association between the Selected Obstetric Variables and Uterine Contraction Duration in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period)

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/ 't' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37to 38	37.00	-	0.156	-	-	-0.248
39 to 40	34.88	4.08		43.47	14.45	
41 to 42	34.38	5.49		45.65	20.26	
Height in cms			-0.141			
<145 cm	34.53	4.61		43.91	15.40	-
>145 cm	34.79	4.81		-	-	
Weight gain during pregnancy			-1.599			0.436
10 kg	-	-		-	-	
12 kg	33.29	3.08		47.02	20.62	
>12 kg	35.80	5.43		43.13	14.27	
Number of antenatal visit			1.316			-1.988
No visit	38.17	6.25		-	-	
1 to 3 times	34.34	4.46		38.45	4.41	
>3 times	33.93	4.23		48.08	19.31	
Complications during antenatal period						
Anemia	35.60	5.28	0.874	-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	34.04	4.19		43.91	15.40	
Duration of first stage of labour						
< 6 hours	34.04	0.25	1.231	38.45	6.25	1.216
7-8 hours	36.43	4.46		38.17	4.46	
9-10 hours	34.34	4.23		33.93	4.43	

Table 14 denotes that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period and Uterine Contraction Duration. Hence null hypothesis Ho3 was accepted

Table 15

Association between the Selected Obstetrical Variables and Uterine Contraction Frequency in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Number of antenatal visit, Complications during antenatal period)

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/ 't' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37	10.30	-	1.253	-	-	0.787
38 to 39	12.25	2.56		15.15	9.64	
40 to 42	13.35	2.25		12.50	6.69	
Height in cms			0.755			
<145 cm	13.18	2.15		14.62	9.09	-
>145 cm	12.49	2.57		-	-	
Weight gain during pregnancy			2.994			-0.449
10 kg	-	-		-	-	
12 kg	13.97	1.41		13.47	6.16	
>12 kg	11.72	2.64		14.91	9.77	
Number of antenatal visit			0.110			0.111
No visit	13.24	2.39		-	-	
1 to 3 times	12.64	2.47		14.84	10.09	
>3 times	12.56	2.63		14.45	8.56	
Complications during antenatal period			0.155			
Anemia	12.77	1.94		-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	12.64	2.82		14.62	9.09	
Duration of first stage of labour						
< 6 hours	13.18	2.15	0.153	14.84	6.16	0.142
7-8 hours	11.72	2.64		14.82	9.77	
9-10 hours	15.15	9.64		13.82	2.63	

Table 15 depicts that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period and Uterine Contraction Duration. Hence null hypothesis Ho3 was accepted

Table 16

Association between the Selected Obstetrical Variables and Cervical Dilatation in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period)

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/ 't' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37to 38	1.50	-	0.128	-	-	2.096
39 to 40	1.68	0.41		2.43	0.18	
41 to 42	1.71	0.41		2.53	0.08	
Height in cms						
<145 cm	1.63	0.37	-0.512	2.45	0.17	-
>145 cm	1.71	0.42		-	-	
Weight gain during pregnancy			-0.421			1.706
10 kg	-	-		-	-	
12 kg	1.65	0.35		2.53	0.12	
>12 kg	1.71	0.44		2.43	0.17	
Number of antenatal visit			3.073			-0.530
No visit	2.07	0.43		-	-	
1 to 3 times	1.56	0.38		2.43	0.18	
>3 times	1.73	0.33		2.46	0.16	
Complications during antenatal period						
Anemia	1.73	0.42	0.499	-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	1.65	0.39		2.45	0.17	
Duration of first stage of labour						
< 6 hours	1.88	0.28	0.195	1.84	0.28	0.195
7-8 hours	1.86	0.26		1.82	0.29	
9-10 hours	1.84	0.28		1.86	0.26	

Table 16 inferred that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Complications during antenatal period and Cervical dilation. Hence null hypothesis Ho3 was accepted.

Table 17

Association between the Selected Obstetrical Variables and Level of Station Decent in Control and Experimental Group of Parturient Mothers. (Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Number of antenatal visit, Complications during antenatal period)

(N=60)

Obstetrical Variables	Control Group			Experimental Group		
	Post Test		ANOVA/ 't' Value	Post Test		ANOVA/' t' Value
	Mean	S.D		Mean	S.D	
Gestational age in weeks						
37to38	-2.00	-	0.245	-	-	1.379
39 to 40	-1.33	0.97		-0.77	0.54	
41to 42	-1.28	0.99		-1.03	0.39	
Height in cms			0.000			
<145 cm	-1.33	1.00		-0.82	0.52	-
>145 cm	-1.33	0.97		-	-	
Weight gain during pregnancy			-1.949			0.750
10 kg	-	-		-	-	
12 kg	-1.69	0.75		-0.73	0.21	
>12 kg	-1.06	1.03		-0.84	0.57	
Number of antenatal visit						
No visit	-0.50	1.00	1.885	-	-	1.522
1 to 3 times	-1.50	0.89		-0.65	0.66	
>3 times	-1.40	0.97		-0.95	0.35	
Complications during antenatal period						
Anemia	-1.23	1.01	0.500	-	-	-
PIH	-	-		-	-	
GDM	-	-		-	-	
No complications	-1.41	0.94		-0.82	0.52	
Duration of first stage of labour						
< 6 hours	-1.33	0.97	0.245	1.33	0.63	1.432
7-8 hours	-1.28	0.99		0.64	0.34	
9-10 hours	-1.23	1.01		0.72	0.24	

Table 17 depicts that there was no significant association between the selected Obstetrical variables such as Gestational age in weeks, duration of first stage of labour, Weight gain during pregnancy, Number of antenatal visit, Complications during antenatal period and Level of station descent. Hence null hypothesis Ho3 was accepted.

Summary

This chapter has dealt with analysis and interpretation of data obtained by the researcher. The analysis of the results showed that in the experimental group the level of labour pain was reduced after the therapy, duration of uterine contraction was increased and frequency was decreased. It enhances more cervical dilatation and advances station decent. This implied that the ambulation has an effect on reduction of pain during labour.

CHAPTER – V

DISCUSSION

An experimental study to assess the effectiveness of ambulatory nursing care upon foetomaternal parameters among primiparturient mothers during first stage of labour at Govt Head Quarters Hospital, Kancheepuram.

Objectives of the Study

The objectives of the study were,

1. To assess the fetomaternal parameters and level of labor pain before and after ambulatory nursing care in control and experimental group of parturient mothers.
2. To compare the fetomaternal parameters and level of labor pain before and after the therapy in control and experimental group of parturient mothers.
3. To determine the level of satisfaction upon experimental group of parturient mothers on ambulatory nursing care.
4. To find out the association between selected demographic variables and fetomaternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.
5. To find out the association between selected obstetric variables and feto maternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.

This study was carried upon sixty parturient mothers who were with labour pain in the labour ward, Government District Head Quarters Hospital, Kancheepuram. Their pain score and fetomaternal parameters during the first stage of labour was assessed every one hour before and after ambulation. Ambulation was given for experimental group. Mother's level of satisfaction on ambulation was assessed on the experimental group.

The discussion is presented under the following heading:

- Demographic variables and obstetric variables in control and experimental group of parturient mothers.
- Mean and Standard Deviation of Fetomaternal Parameters before and after therapy in control and experimental group of parturient mothers.
- Assessment of level of satisfaction on ambulation in experimental group of parturient mothers.
- Association between the selected demographic variables and Fetomaternal parameters after therapy in control and experimental group of parturient mothers.
- Association between selected obstetric variables and, Fetomaternal parameters after therapy in control and experimental group of parturient mothers.

Demographic variables of the parturient mothers

Majority of the parturient mothers in the control and experimental group were in age group of 21-25 years, it could be interpreted that the public had adequate awareness about the opportune time for pregnancy. This view was highlighted by Mathews and

Hamilton, (2002) in their study that the average age of mothers at the time of birth increased from 24.6 in 1970 to 27.2 in 2000, where as the median age of mothers had their first baby increased from 22.1in 1970 to 24.6 in 2000. Beckman et al., (2002) also had found that women order than 35yrs have an increased incidence of sub fertility and inability to conceive. since majority of the mothers were home maker (80%, 60%) they can take adequate rest during pregnancy and can be free from psychological stress, which is an important factor in promoting maternal as well as fetal well being.

Significant percentage of mothers were educated up to primary school level (46.67%, 36.67%) which can be recognized as a facilitating factor to understand the structured interview. According to the census held in 2001 by national literacy mission, the percentage of female literacy mission, the percentage of female literacy has increased from 8.86% in 1951 to 54.16% in 2001. This view was emphasized by as study finding of Ortigo so and karchemer (1996) that the educational level of the patient is a determining factor to the attitude and knowledge of the people towards their own health. Majority of the mothers (86.67%) are residing in rural areas where it is difficult for them to utilize the service in maternity centers, but then public had adequate awareness to seek services rendered by the center more effectively.

Most of the mothers (76.67%) were in joint families. Joint families are like micro organism of the entire world. The researcher assumed that form the joint family the parturient will get lot of support which may promote the well being of the mothers as well as the family members will teach about the changes which occur during labour as the coping measures which is to be adopted during labour.

Most of the mothers (86.67%, 53.33%), had received information regarding ambulatory nursing care through family members It showed that ,though the mothers received information regarding ambulation, they had never practice during their labour process.

Obstetric Variables of Parturient mothers.

Most of the parturient mothers (80%) were in the gestational age between 38-39 weeks. The findings on gestational age can be interpreted that labour process in appropriate gestational age will promote positive labour outcome without any fetomaternal complications. Almost all of them (56.67%, 33.33%) have attended more than three antennal visits. It was remarkable to find that all the mothers had attended more than 3 antenatal visits which can be interrupted that mothers as well as the family members are well known and much aware about the importance of regular antenatal check up for the maternal and fetal well-being. This view was consistent with the target of the millennium development goal (MDG) which is to achieve by 2015, the universal access to reproductive health which makes antenatal care coverage at least one visit and atleast four visit for the improved service delivery.

Duration of first stage of labour was <6 hours in the experimental group where as none of them had in the control group. This findings make sure that the intervention of ambulation was very effective in shortening the labour. This study was supported by Ricci (2007) who reported that walking help to speed labour by adding benefits of gravity and changes to the shape of the pelvis.

Both control and experimental group parturient mothers neither used any pain management during first stage of labour nor experienced any maternal or fetal complications during labour. All of them had normal vaginal delivery in both the group. As the intervention, ambulation in the experimental group does not create any untoward reactions during labour. These findings assure that the midwives can practice this intervention to reduce the labour pain perception and make the child birth experience as a memorable event.

None of them in both control and experimental group had not developed any fetal and maternal complications during labour. This study was supported by Bloom who found that ambulation did not impair the process are result in harm to the mother or fetus.

Mean and standard deviation level of pain before and after therapy in control and experimental group of parturient mothers.

The mean and standard deviation of pain scores of the control group parturient mothers were high after therapy (M=6.64, SD=0.994) compared to the level of pain score before the therapy (M=6.15, SD=0.75).Since primiparturient mothers have longer labors perceive more pain and are more likely to use pharmacologic support. The nurse needs to understand each woman experiences. The pain is reduced during labour by ambulatory nursing care and hence it can be incorporated in nursing practice. As this non-pharmacological pain relief measures during child birth is safe, simple, non-invasive and cost-effective, it can practiced by the midwife in the first stage of labour midwives play vital role in making the parturient to have reduced pain perception

co-operation for the child birth, every mother will remember the midwives who helped to have pain relief during child birth.

Mean and standard deviation of fetomaternal parameters of the parturient mothers.

In the control group the mean and standard deviation of fetomaternal parameters such as frequency of uterine contraction (M =3.15, SD=0.30) were low before the therapy compared with the scored after the therapy. The mean and standard deviation of duration of uterine contraction were high before the therapy (M=53.69, SD=6.31) compared to after the therapy at $p<0.01$. The frequency of uterine contraction before the therapy were high (M=3.15, SD=0.30) compared to after the therapy (M=2.22, SD=0.24) at $p<0.01$.As labour progress the uterine contraction increases which may cause discomfort to the mothers. Enkin et al., (2000) reported that when they allowed to walk it will enhance uterine action, relieves distractions from labour comfort and provides opportunities for close interaction with the care provider as they help her to walk. And also supported by Emily that in walking contractions are less comfortable and more efficient.

The mean score of cervical dilatation of the control group mothers was low (M=2.03, SD=0.35) compared to experimental group (M=2.45, SD=0.17). The mean score of fetal station were more advanced in experimental group (M=0.09, SD=0.59) than in control group mothers (M=0.82, SD=0.52). .

Level of satisfaction of ambulatory nursing care.

All the mothers (100%) in the experimental group were highly satisfied with ambulatory nursing care during first stage of labour and none of them expressed low satisfaction with ambulation. This similar study was supported by Campeco that women in labour especially those giving birth for the time, have a deep need for companionship, empathy and concrete support. The support was rendered by the researcher during the therapy. This view can be emphasized by Jayne Klossner and Nancy Hatfield (2006) who conducted a study to assess social psychological determinants of satisfaction with child birth. The results showed that women who are encouraged to ambulate and reposition themselves as needed during labour report higher satisfaction levels with the birthing process.

Association between demographic variables and fetomaternal parameters

In experimental group there was no significant association between age, education, type of work, area of residence irrespective of the demographic variables all the fetomaternal parameters were not changed before and after therapy. Hence no statistics could be calculated for association between demographic variable and fetomaternal parameters after the therapy in control and experimental group.

In control and experimental group there was no significant association between the demographic variables and fetomaternal parameters after the therapy. This denotes that fetomaternal parameters were not influenced by demographic variables and hence the ambulatory nursing needs to be enhanced by the midwives by practicing complementary and alternative therapies during child birth.

Association between obstetric variables and fetomaternal parameters

In the control and experimental group there was no significant association between the obstetric variables and the fetomaternal parameters before and after the therapy .Hence the study exhibits that there was no relationship between the obstetric variable and fetomaternal parameters. In the control and experimental group there was no significant association between the obstetric variable and fetomaternal parameters before and after therapy.

Summary

This chapter has dealt about the discussion on the various aspects of study findings. This chapter comprises of demographic and obstetric variables of parturient mothers level of labour pain, before and after therapy in control and experimental group, fetomaternal parameters of parturient mothers in control and experimental group, association between the selected demographic variables and level of labour pain before and after therapy in control and experimental group, association between selected obstetric variables and level of labour pain, are discussed with supporting study findings.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

Summary

This study was conducted to determine the effectiveness of ambulatory nursing care during first stage of labour among the parturient mothers in the first stage of labour.

Objectives of the study

1. To assess the fetomaternal parameters and level of labor pain before and after ambulatory nursing care in control and experimental group of parturient mothers.
2. To compare the fetomaternal parameters and level of labor pain before and after the therapy in control and experimental group of parturient mothers.
3. To determine the level of satisfaction upon experimental group of parturient on ambulatory nursing care.
4. To find out the association between selected demographic variables and feto maternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.
5. To find out the association between selected obstetric variables and feto maternal parameters after the ambulatory nursing care in the control and experimental group of parturient mothers.

Null Hypotheses

Ho1: There will be no significant difference in fetomaternal parameters and level of labor pain before and after the therapy between control and experimental group of parturient mothers.

Ho2: There will be no association between selected demographic variables and fetomaternal parameters after the therapy in the control and experimental group of parturient mothers.

Ho3: There will be no association between selected obstetric variables and feoto-maternal parameters after the therapy in the control and experimental group of parturient mothers.

Major findings of the study were:

Demographic variables of the parturient mothers

The frequency and percentage distribution of demographic variables of primi mothers in control group revealed that most of the parturient were in the age group of 21-25 years (56.67%), doing moderate work (60%), and residing at urban area (53.33%). Half of them were living in joint family (50%). Most of the parturient mothers in the experimental group were belonged to the age group of 21-25 years (66.67%). Majority of them were doing moderate work (80%), lived in joint family (76.67%), were residing at rural area (86.67%), and significant percentage of parturient mothers were educated up to primary school in control and experimental group (46.67%), (26.67%) respectively.

Obstetric variables of the parturient mothers

The frequency and percentage of obstetric variables of primi mothers in control group revealed that Majority of the parturient mothers were above 145cm in height (70%). Most of them were above 145 cms in height (70%), had attended antenatal visits 1- 3 times (53.33%) and half of the parturient mothers were in the gestational age between 39-40 weeks (50%). Majority of the study participants in the experimental group were in gestational age between 39-40 weeks (80%), obtained weight gain about 12 kg in the antenatal period (90%), were above 145cm in height (90%). Most of them were attended antenatal clinic more than three times (56.67%). All the participants in the control and experimental group had delivered through normal vaginal delivery without maternal and fetal complications, received no pain management during first stage of labour.

Level of labour pain of parturient mothers

Most of the parturient mothers in control group experienced severe pain (M=7.99, SD=0.534) in experimental group. Majority of them experienced very severe pain 70% before ambulatory nursing care and all of them experienced very severe pain, moderate pain and severe pain after ambulatory nursing care. The mean and standard deviation of pain scores of the control group parturient mothers were high in after therapy (M=7.99, SD= 0.534) compared to the level of pain score before therapy (M=6.64, SD=0.994). In the experimental group the pain score after therapy was low (M=5.05, SD=0.72) compared to the level of pain score before therapy (M=6.75,

SD=0.75). The difference was found statistically significant at $p<0.001$. and can be attributed to the effectiveness of ambulatory nursing care.

Fetomaternal parameters of the parturient mothers

In the control group the mean and standard deviation of frequency of uterine contraction were high after therapy (M=3.1, SD=0.25) in comparison with before therapy (M=2.9, SD=0.49). The mean and standard deviation of uterine contraction duration was high before therapy (M=52.56, SD=5.93) compared to after therapy (M=48.3, SD=8.01). The difference was found statistically significant at $p <0.01$ level of confidence. The mean and standard deviation of frequency of uterine contraction in experimental group was high before therapy (M=3.15, SD=0.30) in comparison with after therapy (M=2.22, SD=0.24). Duration of uterine contraction was low in before therapy (M=53.69, SD=6.31) than after therapy (M=68.10, SD=7.86). This shows that ambulation during first stage of labour increases the duration of uterine contraction and decreases the frequency of uterine contraction. The result was statically significant at 99.9% level of significance. Hence Null hypothesis Ho1 was rejected. The mean score of cervical dilation in the experimental group mothers was more (M=2.45, SD=0.17) than the control group of parturient mothers (M=2.03, SD=0.35).

Level of satisfaction of ambulatory nursing care of parturient mothers

All the mothers in the experimental group were (100%) highly satisfied with ambulatory nursing care during the first stage of labour and none of them expressed low satisfaction with ambulatory nursing care.

Association between demographic variables and fetomaternal parameters

There was no significant association between the selected demographic variables and the fetomaternal parameters and selected obstetric variables and the fetomaternal parameters in control and experimental group of parturient mothers after therapy irrespective of the demographic variables all the fetomaternal parameters were same in control and experimental group. Hence no statistics could be calculated for association between labour pain and demographic variables before the therapy in control and experimental group. In the control and experimental group there was no significant association between the obstetric variables and fetomaternal parameters.

Conclusion

The findings of the study indicated that the ambulatory nursing care reduces the labour pain and increases the contraction and station descent. Ambulatory nursing care is a simple and most acceptable way to cope up with pain among parturient mothers with labour pain. The after therapy level of pain was significantly reduced among the mothers those who received ambulatory nursing care.

Implications

Nursing practice

Nurses have a major role in assessing and providing necessary dimensional therapy to decrease the level of pain if parturient mothers during labour. Many non pharmacological measures are available to reduce the level of labour pain but being simple and non invasive ambulatory nursing care can be easily adopted into practice.

Nurses need to accept the responsibility of helping mothers to gain knowledge on importance of ambulation during first stage of labour and guide them to practice the same. They should also provide conducive environment for ambulation in the labour room. Maternity nurses can play a major role in implementing this care in day today nursing practice by explaining the optimal usage of it. The same intervention can be formulated as a teaching module that can be included as one of the teaching material in mother craft classes.

Nursing Education

As ambulation and its advantages during labour were should be included in the curriculum student should teach mothers, the need for ambulation during first stage of labour during their practices and becoming knowledgeable about its clinical importance during labour. Promotion of ambulatory nursing care must be routine component in education. This should can serve as educative tool for staff nurses working in maternity units by continuous maternity nursing education. For educated mothers, this study can be used as an example of learning material.

Nursing administration

Nursing leaders are challenged to meet the health needs of low risk mothers who are in labour by effective organization and management. It is essential to promote ambulatory nursing care and to develop audit based on ambulatory procedure in collaboration with other health care providers to ensure practice of ambulation care and it need for the mothers in first stage of labour. The media can be used to portray the advantage of practices of first stage labour ambulatory nursing care.

Nursing research

There is a need for extensive and intensive research in this area. Research is needed to examine the role of nurse in educating and encouraging the mothers to practice first stage labour ambulatory nursing care and its impact on labour steps should be taken to develop and implement the research utilization by preparing nurses to read, critique and use research in their practice. They can be encouraged to identify and receives research base, transforming protocol in clinical it to see whether it is producing predicted results.

Recommendations

- This study can be conducted on a larger sample to generalize results.
- A comparative study can be conducted between primi and multigravidae
- Maternal health education centre can include this evidence based study to educate them in their antenatal period as part of child birth classes.
- A comparative study can be conducted between various alternative complementary methods to reduce pain perception during labour.

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APPENDIX -A

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

Apollo College of Nursing
(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0954/10 13.05.10

To

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! As part of the curriculum requirement our 2nd year M. Sc. (N) student **Ms.Sujatha A** has selected the following title for her research study

An experimental study to assess the effectiveness of ambulatory nursing care upon fetomaternal parameters during first stage of labour among primiparturient mothers at selected hospital, Chennai.

So I kindly request your goodselves to permit her to use the resource materials for the above-mentioned candidate.

Thanking You,

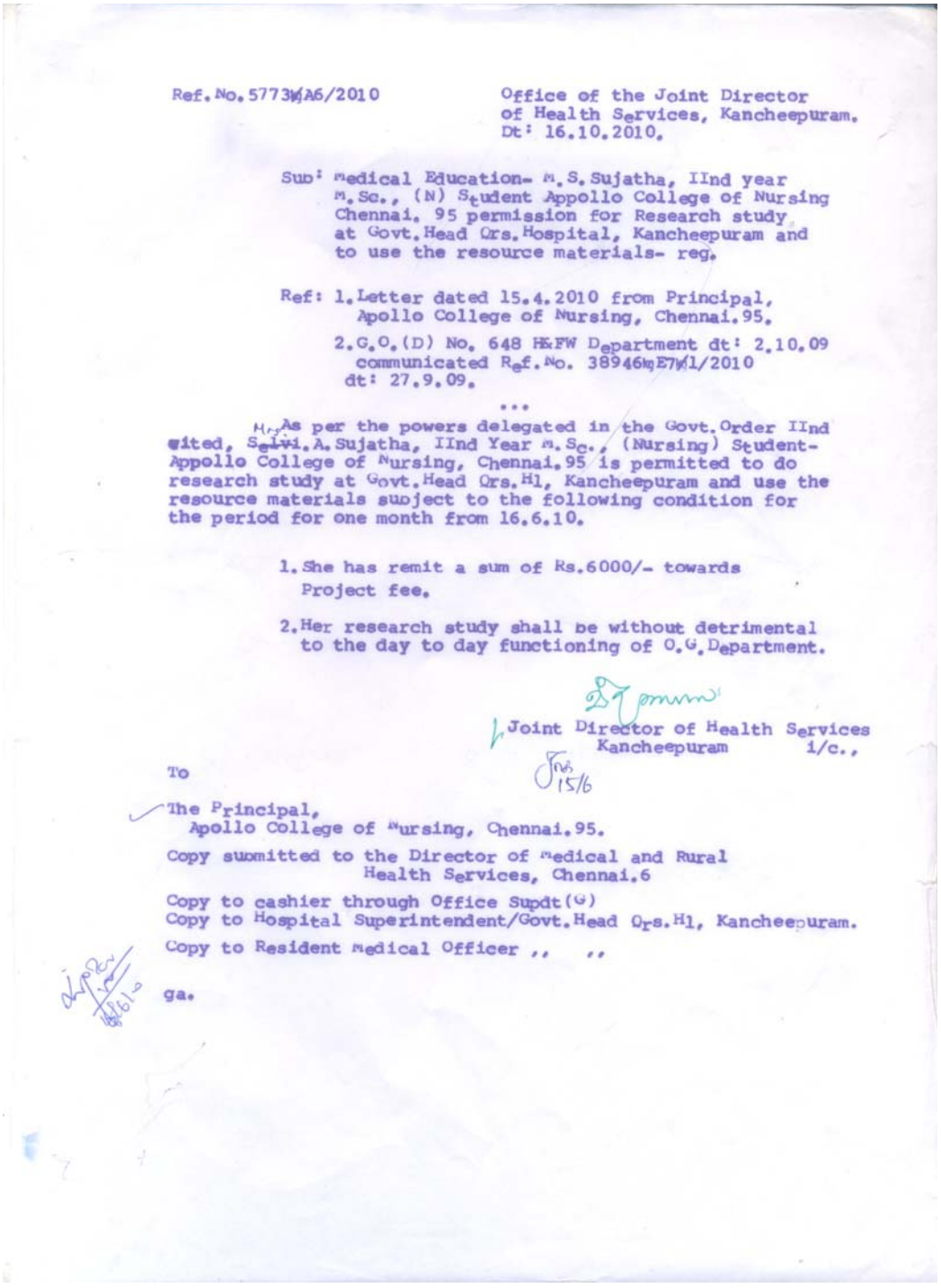
Dr. LATHA VENKATESAN
PRINCIPAL

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX -B

LETTER SEEKING PERMISSION FROM THE DIRECTORATE

OF RURAL AND MEDICAL HEALTH SERVICES



Ref. No. 5773/A6/2010

Office of the Joint Director
of Health Services, Kancheepuram.
Dt: 16.10.2010.

Sub: Medical Education- M.S. Sujatha, IInd year M.Sc., (N) Student Appollo College of Nursing Chennai. 95 permission for Research study at Govt. Head Qrs. Hospital, Kancheepuram and to use the resource materials- reg.

Ref: 1. Letter dated 15.4.2010 from Principal, Apollo College of Nursing, Chennai.95.

2. G.O.(D) No. 648 H&FW Department dt: 2.10.09 communicated Ref. No. 38946/E7/1/2010 dt: 27.9.09.

...

As per the powers delegated in the Govt. Order IInd cited, Selvi. A. Sujatha, IInd Year M.Sc., (Nursing) Student-Appollo College of Nursing, Chennai.95 is permitted to do research study at Govt. Head Qrs. Hl, Kancheepuram and use the resource materials subject to the following condition for the period for one month from 16.6.10.

1. She has remit a sum of Rs.6000/- towards Project fee.

2. Her research study shall be without detrimental to the day to day functioning of O.G. Department.

Joint Director of Health Services
Kancheepuram i/c.,

To

The Principal,
Apollo College of Nursing, Chennai.95.

Copy submitted to the Director of Medical and Rural Health Services, Chennai.6

Copy to cashier through Office Supdt(G)
Copy to Hospital Superintendent/Govt. Head Qrs. Hl, Kancheepuram.
Copy to Resident Medical Officer ,, ,,

ga.

APPENDIX -C

ETHICAL COMMITTEE CLEARANCE LETTER

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

14 July, 2010

To,
Ms. Sujatha A
Final Year M.Sc (Nursing)
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: An experimental study to assess the effectiveness of ambulatory nursing care upon Fetomaternal parameters among primi parturient mothers during first stage of labor at Government Headquarters Hospital, Kanchipuram.

Sub: Your letter dated 06 July 2010 for approval of the above referenced project and its related documents

Dear Ms. Sujatha A,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project Proposal titled "An experimental study to assess the effectiveness of ambulatory nursing care upon Fetomaternal parameters among primi parturient mothers during first stage of labor at Government Headquarters Hospital, Kanchipuram."
- Study Proforma

Ethics Committee Apollo Hospitals reviewed and discussed the above-mentioned documents presented by you related to the conduct of above-referenced study at its meeting held on 13 July, 2010.

The following Ethics Committee members were present at the meeting held on 13 July, 2010

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr. Radha Rajagopalan	Clinician	Vice – Chairman
Ms. Jayanthi Swaminathan	Clinical Project Manager	Member Secretary
Dr. V. Balaji	Clinician	EC-Member
Dr. C. Paul Dilip Kumar	Clinician	EC-Member
Dr. K. C. Krishnakumar	Clinician	EC-Member

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai – 600 006
Tel: 91 – 44 – 2829 3333 Extn: 6008, 91 – 44 – 2829 4439 Extn: 6639 Fax: 91 – 44 – 28294449
E - Mail: ecapollochennai@gmail.com

Ethics Committee

Name	Profession	Position in the committee
Dr. Clive Fernandes	Consultant Clinical Pharmacologist	Basic Medical Scientist
Ms. Maimoona Badsha	Lawyer	Lawyer
Mrs. Chandra Jebaseelan	Nursing Superintendent	EC-Member
Dr. P. Nalini Rao	Social Worker	EC-Member
Miss. N. Suseela	Retired English Teacher	Layperson

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,

Date 14/7/10

Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006. Tamil Nadu.

Apollo Hospitals Enterprise Limited
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APPENDIX - D

PLAGIARISM ORIGINALITY REPORT

Plagiarism Detector - Originality Report

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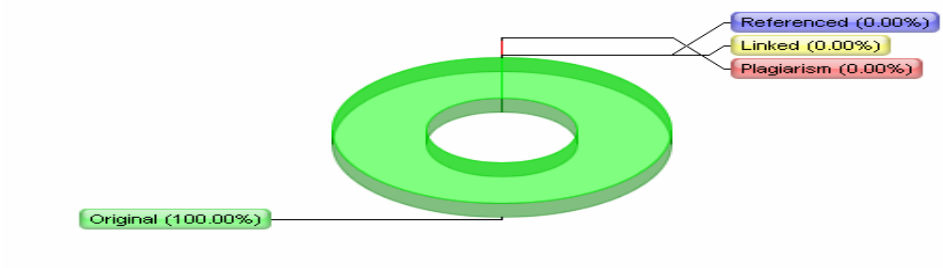


Referenced 0% / Linked 0%

Original - 100% / 0% - Plagiarism

APPENDIX - E

LETTER SEEKING PERMISSION TO USE STUDY TOOL

Letter requesting opinion and suggestion of experts for establishing content validity of research.

From,

Ms. A.Sujatha
Msc. Nursing, II year
Apollo College Of Nursing
Chennai-95

To,

Through,

Dr. Latha Venkatesan
Principal
Apollo college Of Nursing
Chennai-95

APOLLO COLLEGE OF NURSING
VANAGARAM TO AMBATTUR MAIN ROAD
AYANAMBAKKAM, CHENNAI - 600 095

Sub: requesting for opinion and suggestion of experts for establishing content validity research tool.

Respected madam/ sir,

I am post graduate student of Apollo College Of Nursing.I have selected the below mentioned topic for research to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai, as a partial fulfilment of Nursing degree.

"An experimental study to determine the effects of ambulatory nursing care on feto maternal parameters among primi parturient in first stage of labour at selected hospital, Chennai"

With regards may i kindly request you to validate my tool for its appropriateness and relevancy. I'm enclosing the objectives of the study, demographic variable proforma. I would be highly obliged and remain thankful for your great help.

Thanking you

Yours sincerely,

(A.Sujatha)

APPENDIX - F

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the Research tool of Ms.SUJATHA.A, II Year M.Sc., (Nursing) student who is undertaking her research study. "An experimental study to determine the effects of ambulatory nursing care on feto-maternal parameters among primi parturient mothers in first stage of labour at the selected hospitals, Chennai".

Signature of Expert

Name & Designation

APPENDIX - G

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Prof.Latha Venkatesan, M.SC., M.Phill., Ph.D.,**
   Principal and Professor in Maternity Nursing,
   Apollo College of Nursing,
   Chennai-600095.

2. **Dr .Sarat Battina M.D., D.G.O.,**
   Coordinator,
   Dept. of obstetrics & Gynecology,
   Apollo Hospitals,Chennai.

3. **Dr.C.Susila, M.Sc (N)., Ph.D.,**
   Principal and professor in nursing,
   Billroth College of Nursing,
   Chennai.

4. **Prof.Helen M.Perdita, M.SC (N)., Ph.D.,**
   Vice Principal and Professor in Nursing,
   Apollo College of Nursing,
   Chennai- 600095.

5. **Prof. Anitha Rajendran Babu**
   Principal
   Rajalakshmi College of Nursing.

6. **Ms. Kanomozhi M.Sc (N).,**
   Asst. Prof Obstetric and Gynecology Nursing,
   Apollo Collge of Nursing.

7. **Ms. Grace, M.Sc (N)**
   Lecturer in Obstetrics and Gynecological Nursing,
   Apollo College Of Nursing.

APPENDIX - H

RESEARCH PARTICIPATION CONSENT FORM

I am an M.Sc., Nursing student of Apollo College of Nursing, Chennai. As a part of my studies a research on **"An Experimental study to assess the effectiveness of ambulatory nursing care upon fetomaternal parameters among during first stage of labour among primiparturient mothers at Govt. Headquarters Hospital, Kancheepuram"** is selected to be conducted. The findings of the study will be helpful in reducing stress level and improving the quality of life of postmenopausal women.

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your responses. The information collected will be kept confidential and anonymity will be maintained.

Signature of the researcher

I……hereby give my consent to be a research participant for the above mentioned study.

Signature of the Participant.

Muha;r;rpapy; gq;FngUgtUf;fhd xg;Gjy; gbtk;

md;ghh;e;j jha;khNu!

ehd; mg;NghNyh nrtpypah; fy;Y}hpapy; KJfiy nrtpypah; gapw;rp ngWk; khztp. vd;Dila gapw;rpapd; xU gFjpahf gpurtj;jpd;l Kjy;epiyapy; jhahh;fis elf;f itj;jy; %yk; Foe;ijapd; ,ja Jbg;G jha;khhpd; ehb Jbg;G> ,uj;j nfhjpg;G> fh;gig typapd; msT> fh;gig thapd; jpwg;gpd; msT Mfpatw;iw gw;wpa gad;ghl;il kjpg;gPL nra;tjw;fhd gapw;rpia chpa Kiwapy; nra;J fs Ma;Tg;gzpia elj;j cs;Nsd;.

,e;j fs Ma;Tg;zpia rhptu Nkw;nfhs;tjw;F jq;fspd; Nkyhd mDkjpiaAk; rPhpa xj;Jiog;igAk; Ntz;LfpNwd;.

Muha;r;rpahshpd; ifnahg;gk;

..... vd;fpd;w ehd; ,e;j Ma;tpy; gq;Fngw xg;Gjy; mspf;fpNwd;.

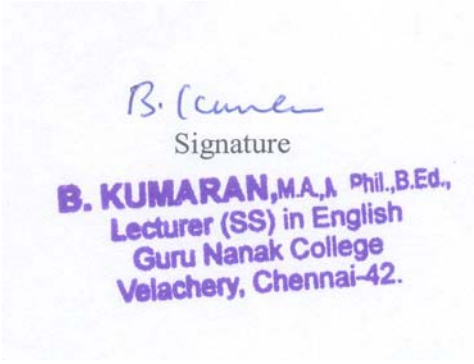
gq;FngWNthhpd; ifnahg;gk;

APPENDIX - I

CERTIFICATE FOR ENGLISH EDITING

TO WHOM SOEVER IT MAY CONCERN

This to certify that the dissertation **"assess the effectiveness of ambulatory nursing care upon feotomaternal parameters during first stage of labour at Headquarters hospital, Kanchepuram."** by **Ms. Sujatha.A** II year M.Sc (N) Student of Apollo College of Nursing, was edited for English Language appropriateness.

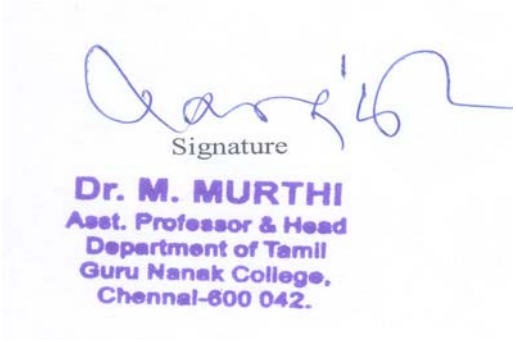


APPENDIX - J

CERTIFICATE FOR TAMIL EDITING

TO WHOM SOEVER IT MAY CONCERN

This to certify that the tool for modified pain intensity scale, rating scale and the level of satisfaction of ambulatory nursing care translated by Ms. A.Sujatha, II year M.Sc (N), Student. Apollo College of Nursing for her dissertation **"A experimental study to assess the effectiveness of ambulatory nursing care upon feotomaternal parameters during first stage of labour."** was edited for Tamil Language appropriateness.



APPENDIX – K1

DEMOGRAPHIC VARIABLE PROFORMA

Purpose

This proforma is used by the researcher to collect information on demographic variable such as Age, Education status, Type of work, Height in Cms, type of family, area of residence.

Instruction

The investigator will collect data by interviewing the mother and by referring their hospital record and fill the details.

Sample No ☐

Hospital No ☐

1. Age in Years

1.1. ≤ 20 ☐

1.2. 21 to 25 ☐

1.3. 26 to 30 ☐

1.4. ≥ 31 ☐

2. Education

2.1. No formal education ☐

2.2. Primary school ☐

2.3. High school ☐

2.4. Higher secondary ☐

2.5. Graduate ☐

2.6. Post graduate ☐

3. Type of work

3.1. Sedentary worker ☐

3.2. Moderate worker ☐

3.3. Heavy worker ☐

4. Type of family

4.1. Nuclear ☐

4.2. Joint ☐

5. Area of residence

5.1. Urban ☐

5.2. Rural ☐

5.3. Semi urban ☐

6. Previous information received regarding ambulatory nursing care during first

6.1. Yes ☐

6.2. No ☐

7. If yes, source of information is from

7.1. Media ☐

7.2. Neighbours ☐

7.3. Health professionals ☐

7.4. Family members ☐

APPENDIX – K2

OBSTETRICAL VARIABLE PROFORMA

Purpose:

The proforma is used by the researcher to collect information on obstetric variables such as gestational age in weeks, height, weight gain during pregnancy, number of antenatal visits, complications during antenatal period, pain management during first stage of labour, type of delivery, duration of first stage of labour, maternal and fetal complications during labour.

Instruction: The researcher will be referring the hospital records of the mother to fill the details.

1. Gestational age in weeks

1.1. 37 to 38 ☐

1.2. 38 to 39 ☐

1.3. 40 to 42 ☐

2. Height in Centimeters

2.1. <145 Cm ☐

2.2. > 145 Cm ☐

3. Weight gain during pregnancy

3.1. 10 kg ☐

3.2. 12 kg ☐

3.3. >12 kg ☐

4. Number of antenatal visit till date

4.1. No visit ☐

4.2. 1 to 3 times ☐

4.3. > 3 times ☐

5. Complications during antenatal period

5.1. Anemia ☐

5.2. Pregnancy Induced Hypertension ☐

5.3. Gestational Diabetes Mellitus ☐

5.4. No complications ☐

6. Pain management during first stage of labour

6.1. Systemic analgesia ☐

6.2. Inhalation analgesia ☐

6.3. Epidural analgesia ☐

6.4. Combined Spinal Epidural analgesia ☐

6.5. None ☐

7. Type of delivery

7.1. Normal vaginal delivery ☐

7.2. Forceps delivery ☐

7.3. Vacuum delivery ☐

7.4. Lower segment cesarean section ☐

8. Duration of first stage of labour

8.1. <6 hours ☐

8.2. 7 to 8 hours ☐

8.3. 9 to 10 hours ☐

8.4. >10 hours ☐

9. Maternal complications during delivery

9.1. Shoulder dystocia ☐

9.2. Postpartum hemorrhage ☐

9.3. Dysfunctional labour ☐

9.4. None ☐

10. Fetal Complications

10.1. Prolapsed cord ☐

10.2. Respiratory distress syndrome ☐

10.3. Meconium Aspiration Syndrome ☐

10.4. Asphyxia Neonatorum ☐

10.5. None ☐

APPENDIX – K3

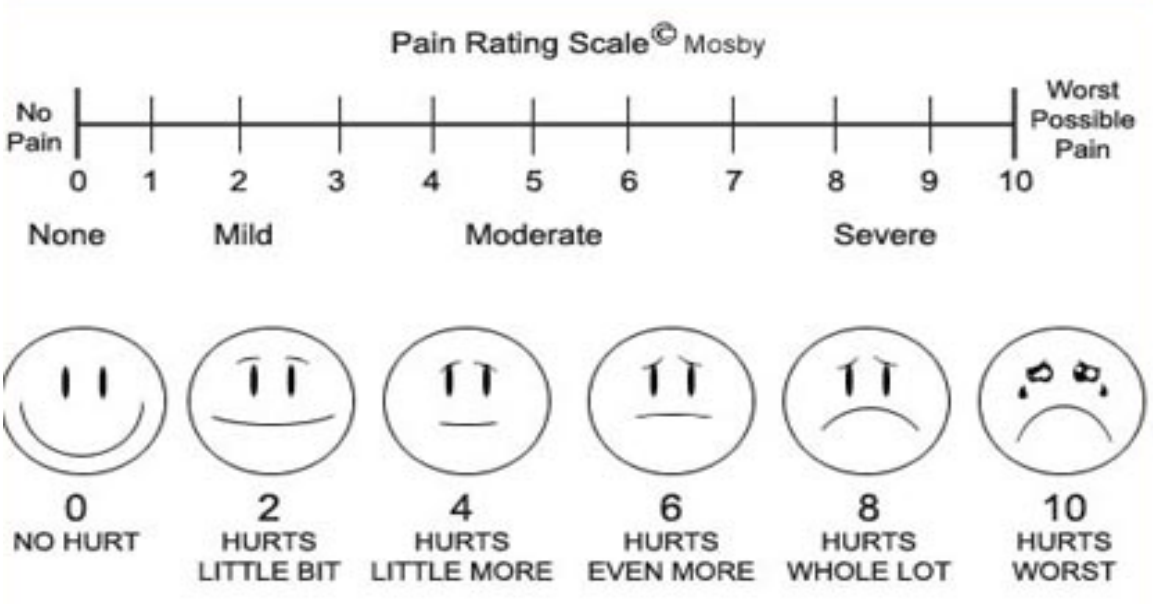
PAIN RATING SCALE

Purpose

This scale is used to measure the intensity of pain of parturient mothers before and after the use of ambulatory nursing care during the first stage of labour.

Instruction

Please indicate the amount of pain felt by you. This response will be kept confidential.



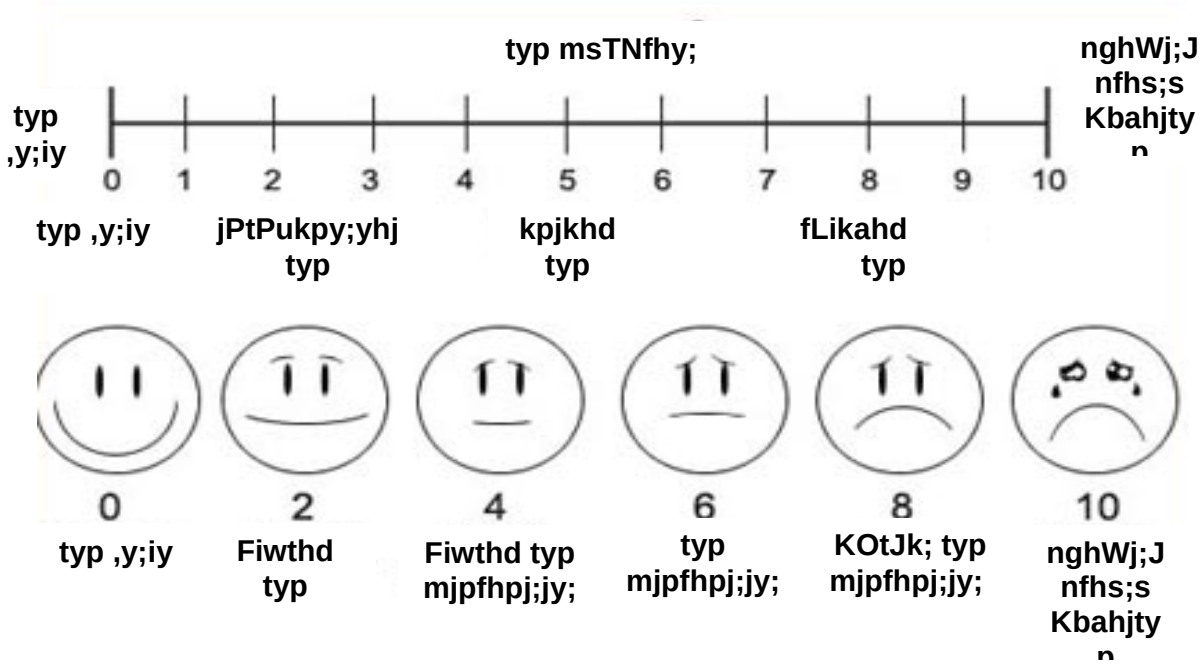
typ msTNfhy;

Nehf;fk;:

,e;j msTNfhy; jha;khh;fspd; Kjy; fl;l gpurtj;jpd; NghJ Vw;gLk; typapd; msit xU kzp Neuj;jpw;F xU Kiw elf;f itj;jy; rpfpr;irapd; Kd;Dk; gpd;Dk; msf;fg; gad;gLfpwJ.

gq;FngWNtUf;fhd Fwpg;G

ePq;fs; ve;j typia czh;fpwPh;fs; vd;gijr; Rl;bf;fhl;lTk; cq;fs; gjpy; ufrPakhf itf;fg;gLk;.



APPENDIX – K4

SIMPLIFIED PARTOGRAPH

Name: …… Age: ……. Date: …….

Admission on: ……. At …….

Membrane Neptune / Not …….

LMP: …… EDD: …… Date; …….

Hosp No: …….

Duration of Labour: …….. Sample No: …….

Observation	1	2	3	4	5	6	7	8	9	10
Time										

Fetal	Before	1	2	3	4	5	6	7	8	9	10
Heart rate (min)	After										

Pulse rate	Before	1	2	3	4	5	6	7	8	9	10
(min)	After										

BP mm	Before	1	2	3	4	5	6	7	8	9	10
HG Systolic	After										

BP mm HG Diastolic	Before	1	2	3	4	5	6	7	8	9	10
	After										

Cervical Dilatation (cms)	Before	1	2	3	4	5	6	7	8	9	10
	After										

Station descent of fetal head	Before	1	2	3	4	5	6	7	8	9	10
	After										

Uterine contraction fre (min)	Before	1	2	3	4	5	6	7	8	9	10
	After										

Uterine contraction duration (sec)	Before	1	2	3	4	5	6	7	8	9	10
	After										

APPENDIX – K5

AMBULATION CHART

Purpose

This scale is used to asses the feotomaternal parameters such as fetal heart rate, maternal pulse rate, systolic blood pressure, diastolic blood pressure, uterine contraction, cervical dilatation and decent of fetal head of parturient mothers before and after ambulatory nursing care during first stage of labour.

Instruction

The mother will be made to walk for 30 minutes intervals and 15-30 minutes of rest will be provided.

Time of ambulation started	Duration of walking	Duration of rest

BLUE PRINT ON RATING SCALE SATISFACTION OF AMBULATION DURING FIRST STAGE OF LABOUR.

S.No	Content	Items	Total Items	Percentage
1.	Characteristics of the researcher	1,5,7,10	4	26.6%
2.	Method of application	2,3,4,6,8,9	6	40%
3.	Effectiveness of the therapy	11,12,13,14,15	5	33.3%
		Total	**15**	**100%**

APPENDIX – K6

RATING SCALE ON THE SATISFACTION OF AMBULATORY NURSING CARE

Purpose

The rating scale is designed to assess the level of satisfaction of the parturients regarding the Ambulatory Nursing Care and effectiveness of therapy. This is assessed by the researcher after delivery**.**

Instruction

There are items given below. Kindly read the items. Responses extend from highly satisfied to dissatisfy. Describe your satisfaction regarding Ambulatory Nursing Care. Give responses freely and frankly. The responses will be kept confidential**.**

S. No	**Items**	**Highly Satisfied 4**	**Moderately Satisfied 3**	**Just Satisfied 2**	**Dissatisfied 1**
1.	I feel the giving of this therapy is appropriate				
2.	I feel the duration of this therapy is appropriate				
3.	It feel case and comfort after ambulation				
4.	I feel that the pain is reduced due to ambulation				
5.	I feel this method is best non pharmacological measure				
6.	I feel that this method does not cause any complication for mother				

7.	I feel this method does not cause complication for fetus				
8.	I feel this method increase in coping ability				
9.	I feel this method helps in diversion of mind from pain				
10.	I feel this methods promotes relaxation				

Percentage	**Interpretation**
$\leq$ 50	Low
51-75	Moderate
$\geq$ 75	High

elf;f itj;jy; rpfpr;irapd; jpUg;jpia msf;Fk; ju msTNfhy;

Nehf;fk;

,e;j ju msTNfhy; gpurtpj;j jha;khh;fspd; elf;f itj;jy; rpfpr;irapd; jpUg;jpapd; msit mwpa gad;gLfpwJ.

Fwpg;G

,q;F 15 jdp tptuq;fs; fPNo nfhLf;fg;gl;Ls;sJ. xt;nthU jdp tptuj;jpw;F ehd;F gjpy;fs; cs;sd. xt;nthU Nfs;tpapd; gjpiyAk; kpfTk; jpUg;jpahf cs;sjh> kpjkhd jpUg;jpahf cs;sjh my;yJ mjpUg;gjpahf cs;sjh vdj; njhptpf;fTk;. cq;fs; gjpy;fisj; njspthf xspT kiwtpd;wp njhptpf;fTk;. cq;fs; gjpy;fs; ufrpakhf ghJfhf;fg;gLk;.

tupir vz;	**jdptptuk;**	**kpfTk; jpUg;jp**	**kpjkhd jpUg;jp**	**Fiwe;j jpUg;jp**	**mjpUg;jp**
1.	nfhLf;fg;gLk; rpfpr;ir nghUj;jkhdJ vd;W czh;fpNwd;.				
2.	nfhLf;fg;gLk; rpfpr;irapd; fhy msT nghUj;jkhdJ vd;W czh;fpNwd;.				
3.	elf;f itj;jgpd;G gpurtyp Fiwe;J Rfkhf ,Ug;gJ vd czh;fpNwd;.				
4.	elf;f itj;jy; %yk; typ Fiwe;jJ vd;W czh;fpNwd;.				

5.	elf;f itj;jy; xU rpwe;j kUj;Jt nghUspy;yhj rpfpr;ir vd;gij czh;fpNwd;.				
6.	elf;f itj;jyhy; jha;khWf;F gpd;tpisT VJk; Vw;glhJ vd;gij czh;fpNwd;.				
7.	elf;f itj;jy; rpfpr;irahy; rpRTf;F gpd;tpisT VJk; Vw;glhJ vd;gij czh;fpNwd;.				
8.	elf;f itj;jy; %yk; typia rkhspf;Fk; jpwd; mjpfhpf;fpwij czh;fpNwd;.				
9.	elf;f itj;jy; Kiw typ ftdpj;jyypUe;J tpyf;fk; ngw cjTfpwJ vd;W czh;fpNwd;.				
10.	elf;f itj;jy; Kiwahy; gpurt typapypUe;J jypT ngw cjTfpwJ.				

APPENDIX – K7

Item wise Frequency and Percentage Distribution of Satisfaction Level of Ambulatory Nursing Care in the Experimental Group of Parturient mothers.

Items	Highly satisfied		Moderately satisfied		Just satisfied		Dissatisfied	
	n	p	n	p	n	p	n	p
Characteristics of the researcher Are you satisfied with the explanations given by the researcher well in advance regarding ambulation during first stage of labour	27	89.9	3	9.9	-	-	-	-
Are you satisfied with the availability of the researcher during needed time?	27	89.9	2	6.6	1	3.3	-	-
Are you comfortable with the approach of the researcher?	29	96.6	1	3.3	-	-	-	-
Do you feel satisfied with the method of evaluation by the researcher?	2	6.6	7	23.3	21	69.9	-	-

Method of Application Are you satisfied with the timing of the ambulation given when needed?	16	53.3	14	46.6	-	-	-	-
Are you comfortable with the method of ambulation	8	26.6	20	66.6	2	6.6	-	-
Are you satisfied with the method of ambulation	10	33.3	20	66.6	-	-	-	-
Effectiveness Are you satisfied with the negligible side effects of the ambulation	12	40	16	53.3	2	6.6	-	-
Are you able to feel relaxed and satisfied with ambulation?	3	9.9	20	66.6	7	23.3	-	-
Are you satisfied with the effectiveness of the therapy?	17	56.6	13	43.3	-	-	-	-

This table denotes the majority of the parturient mothers were highly satisfied with the characteristics of the researcher and on the effectiveness of the ambulation.

APPENDIX - L

DATA CODE SHEET

S.N. Sample No

AGE – Age in years

1.1 ≤ 20

1.2 21 to 25

1.3 26 to 30

1.4 >30

EDU-Educational status

2.1 No formal education

2.2 Primary school

2.3 High school

2.4 Higher secondary

2.5 Graduate

2.6 Post graduate

TOW –Type of work

3.1 Sedentary worker

3.2 Moderate worker

3.3 Heavy worker

TOF-Type of Family

4.1 Nuclear

4.2 Joint

AOR-Area of Residence

5.1 Urban

5.2 Rural

5.3 Semi urban

IRL-Previous information received regarding Ambulation

6.1 Yes

6.2 No

GA-Gestational Age

1.1 37 to 38

1.2 38 to 39

1.3 40 to 42

HT- Height in Cms

2.1 < 145 cm

2.2 > 145cm

WT- Weight gain during pregnancy

3.1 10kg

3.2 12kg

3.3 > 12

AN-Number of Antenatal visits till date

4.1 No visit

4.2 1 to 3 times

4.3 >3 times

COMP-Complication during pregnancy

5.1 Anemia

5.2 Pregnancy induced hypertension

5.3 Gestational diabetes mellitus

5.4 No Complications

Pain M-Pain management during first stage of labor

6.1 Systemic analgesia

6.2 Inhalation analgesia

6.3 Epidural analgesia

6.4 Combined spinal epidural analgesia

6.5 none

TOD-Type of Delivery

7.1 Normal vaginal delivery

7.2 Forceps delivery

7.3 Vacuum delivery

7.4 Lower segment cesarean section

DOF-Duration of first stage of labour

81. < 6hours

8.2 7-8 hours

8.3 9- 10 hours

8.4 > 10 hours

MET-Maternal Complication During Labour

9.1 Shoulder Dystocia

9.2 Postpartum Hemorrhage

9.3 Dysfunctional Labour

9.4 None

FET –Fetal Complication

10.1 Prolapsed cord

10.2 Respiratory distress syndrome

10.3 Meconium aspiration syndrome

10.4 Asphyxia neonatorum

10.5 None

FHR-Fetal Heart Rate

MPR - Mother's Pulse Rate

MBP Sos - Systolic Blood Pressure

MBP dis - Diastolic Blood Pressure

UCD-Uterine Contraction Duration

UCF- Uterine contraction Frequency

CD- Cervical Dilatation

SD- Station Descent

LOS- Level of Satisfaction

APPENDIX – M

MASTER CODE SHEET

CONTROL	DEMOGRAPHIC VARIABLES							OBSTETRIC VARIABLES										FEOTOMATERNAL PARAMETERS												Pain	
																		FHR		PR		BP SYS		BP DIS		CD		CD F				
	AGE	EDU	TOW	TOF	AOR	PI	SOI	GA	HT	WT	NOV	COMP	PM	TOD	DOF	MET	FET	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	CD	SD	Before	After
1	2	2	2	1	1	1	2	2	2	2	2	1	6.5	7.1	8.3	9.4	10.5	134	134	80.5	82.6	120	113	75	70	34.3	34	12.1	13.6	1.3	-2	6	6
2	2	3	1	1	2	1	4	3	2	2	3	4	6.5	7.1	8.3	9.4	10.5	414.6	141.5	80.4	81	120	122.5	74	67.5	31.3	32.5	15.5	15	1.5	-2	6.4	8
3	3	4	3	2	1	1	4	2	2	2	3	4	6.5	7.1	8.2	9.4	10.5	139.6	138.4	80	81.6	118	114	50	74	34.5	37	13.5	10.3	2	-2	6.8	8
4	3	5	1	1	1	2	4	3	2	2	3	1	6.5	7.1	8.3	9.4	10.5	141.2	141.6	79.2	79.6	118	114	59.4	74	29.5	29.5	14.5	14.5	1.75	-2	7.2	8
5	2	2	1	2	2	2	2	3	2	3	2	4	6.5	7.1	8.2	9.4	10.5	140.8	139.6	96.4	79.6	118	116	78	78	34.5	36	11.5	8	1.25	-2	8	8
6	2	2	2	1	3	1	4	2	2	2	2	4	6.5	7.1	8.3	9.4	10.5	141.6	141.5	80.4	81	120	122.5	74	67.5	31.5	32.5	15.5	15	1.5	-2	6.4	8
7	2	4	2	2	1	1	4	2	1	2	2	1	6.5	7.1	8.2	9.4	10.5	134	134	80.5	82.5	120	113	75	70	34.3	34	11.5	12	1.3	-2	6	6
8	3	4	3	2	2	2	2	2	1	4	1	1	6.5	7.1	8.2	9.4	10.5	136.6	136	78.6	80	116.6	110	76.6	75	39.1	40	12.5	9.75	2	0	6	8
9	3	4	2	1	1	1	2	3	2	2	2	1	6.5	7.1	8.3	9.4	10.5	143.3	142.6	81	82	113.3	120	73.3	76.6	33.5	40.8	12.1	13.6	2.3	0	6	6.6
10	2	2	2	1	1	1	2	3	2	4	2	4	6.5	7.1	8.2	9.4	10.5	139	138.5	80.5	82	117.5	112.5	80	75	42.5	46.2	16.2	14.6	2.5	0	6.5	7.5
11	2	3	1	2	2	2	4	2	1	2	2	4	6.5	7.1	8.3	9.4	10.5	139.6	139.2	80.8	81.6	118	118	80	76	34.3	34	15.5	15	1.3	-2	6	8
12	3	3	2	1	2	1	2	2	1	2	1	4	6.5	7.1	8.2	9.4	10.5	140	139.4	80.7	79.7	117.5	111.4	75	74.2	31.5	32.5	15.5	15	1.5	-2	6	8
13	3	3	2	2	2	2	2	2	2	3	3	4	6.5	7.1	8.2	9.4	10.5	138.8	139	80	81	118	115	78	77.5	38	31	11.5	8	2	0	6	8
14	2	2	2	2	1	1	4	2	2	3	2	4	6.5	7.1	8.2	9.4	10.5	139	139.6	80.6	81	121.6	116.6	80	80	34.5	34	12.1	13.6	2	0	8	8
15	3	3	2	2	1	1	2	2	2	2	1	4	6.5	7.1	8.2	9.4	10.5	140.5	141	81	80	115	122.3	77.5	77	34.3	34	12.1	13.6	2.3	0	6	8
16	2	2	1	1	1	4	4	2	1	3	2	4	6.5	7.1	8.4	9.4	10.5	140.5	140.5	121	118	80	81	81	80	29.5	30	14.5	14.5	1.5	-2	6	8
17	2	1	2	1	2	1	2	3	2	3	2	1	6.5	7.1	8.4	9.4	10.5	134	134	80.5	82.6	120	113	75	70	34.3	34	13.5	10.3	1.3		6	8
18	3	3	3	1	1	2	2	3	2	2	2	1	6.5	7.1	8.4	9.4	10.5	141.2	141.6	79.6	79.2	118	114	60	74	29.5	29.5	14.5	14.5	1.75	-2	6	8
19	3	3	2	2	2	2	4	3	2	2	3	4	6.5	7.1	8.4	9.4	10.5	141.6	141.5	80.4	81	120	122.5	74	67.5	31.5	32.5	15.5	15	1.5	-2	6	8
20	2	2	2	2	1	1	4	3	1	3	2	4	6.5	7.1	8.4	9.4	10.5	140.5	141	81	80	115	122.3	77.5	77.5	29.5	29.5	14.5	14.5	1.3	-2	8	8
21	2	3	2	1	1	2	2	3	1	4	3	4	6.5	7.1	8.4	9.4	10.5	136.6	136	78.6	80	166.6	110	76.6	75	39.1	40	12.5	9.75	2	0	6	8
22	3	4	1	2	3	1	3	2	2	3	3	4	6.5	7.1	8.4	9.4	10.5	140.8	139.6	96.4	80	118	116	78	78	34.5	36	11.5	10.5	1.25	-2	8	8
23	3	5	2	1	3	1	4	2	2	3	1	1	6.5	7.1	8.3	9.4	10.5	139	138.5	80.5	82	117.5	112.5	80	75	42.5	46.2	16.2	14.6	2.5	0	6.8	8
24	2	2	2	2	1	2	4	2	2	3	2	1	6.5	7.1	8.4	9.4	10.5	139.6	138.4	80	81.6	118	114	80	74	34.5	37	13.5	10.3	1.5	-2	8	8
25	3	2	1	1	2	2	3	2	2	4	2	4	6.5	7.1	8.3	9.4	10.5	138	139	80	81	118	115	78	77.5	38	31	11.5	8	1.25	-2	6	8
26	2	2	2	2	1	1	4	3	1	3	3	1	6.5	7.1	8.3	9.4	10.5	143.3	142.6	81	82	113.3	120	73.3	76.6	33	40.8	12.1	13.6	2.3	0	8	8
27	2	1	2	1	1	1	4	3	1	3	3	4	6.5	7.1	8.3	9.4	10.5	140	139.4	80.7	79.7	117.5	118.4	75	74.2	29	30	14.5	14.5	1.5	-2	6.6	8
28	2	1	1	2	2	2	4	3	2	4	2	1	6.5	7.1	8.2	9.4	10.5	141.2	141.2	79.2	79.6	118	114	70	74	29.5	30	14.5	14.5	1.5	-2	8	8
29	3	2	2	1	2	2	4	1	2	3	2	1	6.5	7.1	8.3	9.4	10.5	139.6	138.4	80	81.6	118	114	80	74	34.5	37	13.5	10.3	1.5	-2	6.4	8
30	2	3	3	2	1	1	2	3	2	2	3	1	6.5	7.1	8.3	9.4	10.5	139.6	139.2	802	81.6	118	118	80	76	29.5	30	14.5	14.5	1.5	-2	6.2	8

EXP GROUP	DEMOGRAPHIC VARIABLE					OBSTETRIC VARIABLES												FEOTOMATERNAL PARAMETERS																
																		FHR		PR		BP SYS		BP DIS		CD		CD F				pain		LOS
	AGE	EDU	TOW	TOF	AOR	GA	HT	WT	NOV	COMP	PM	TOD	DOF	MET	FET	PI	SOI	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	CD	SD	Before	After	
1	2	3	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	4	136.8	137.2	81.2	81.6	122	120	82	82	32.9	33.5	10.5	10.5	2	-2	7.2	6.4	54
2	3	3	1	2	2	2	1	2	2	4	6.5	7.1	8.1	9.4	10.5	1	2	140.5	140.6	81	80	121.4	118	80	81	35.4	34.5	11.8	11.4	2	0	7.2	5.5	51
3	3	4	3	2	3	3	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	139.5	140.5	80	80	120	117.5	80	82.5	38.75	40.8	11.4	10.3	2	0	7	6	50
4	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	4	139	139.6	80.6	81	121.6	116.6	80	80	42.5	44.5	11.4	11.4	1.3	0	5.6	4.3	53
5	3	3	2	1	3	3	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	138.8	139	80	81	118	115	78	77.5	38	31	11.5	8	2	0	5.2	4	47
6	3	3	1	2	2	2	1	2	2	4	6.5	7.1	8.3	9.4	10.5	1	4	140.5	140.6	81	80	121.4	118	80	81	35.4	34.5	11.8	11.8	2	0	7.2	5.5	46
7	2	3	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	4	136.8	137.2	81.2	81.6	122	120	82	82	32.9	33.5	10.5	10.5	2	-2	7.2	6.4	48
8	2	4	2	2	2	2	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	140	139.4	80.7	79.7	117.5	111.4	75	74.2	84.3	88.5	27.1	26	2	0	6	4.5	49
9	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.1	9.4	10.5	1	4	141.2	141.4	80	80.2	117.5	115.7	72.5	68.5	39.6	40	37.5		2	0	6.2	4.8	51
10	3	3	2	1	2	3	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	140.5	141	81	80	115	122	77.5	77.5	41.8	41.8	12	10.8	2	0	7	5	50
11	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.1	9.4	10.5	1	4	140	139.6	81.3	80.6	115	116.6	75	76.6	39.5	40.8	10	9.4	1.8	0	6	5.6	51
12	2	2	2	1	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	140.5	140.2	80.5	81	121	115.7	80	80	42	42	11.7	10.5	1.3	-3	5.4	4.8	49
13	2	5	1	1	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	139.6	139.2	80.8	81.6	118	118	80	76	41.5	43.5	13.2	9.9	2	0	5.2	4.8	48
14	2	2	2	1	2	2	1	2	3	4	6.5	7.1	8.1	9.4	10.5	1	4	140	139.4	80.7	79.7	117.5	111.4	75	74.2	84.3	88.5	27.1	26	2	0	7.2	6.4	53
15	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	4	139.6	139.2	80.8	81.6	118	118	80	76	39.5	40.8	10	9.4	1.8	0	5.6	4.3	49
16	2	2	2	1	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	141.2	141.4	80	80.2	117.5	115.7	72.5	68.5	39.6	40	37.5	37	2	0	7	6	52
17	2	2	2	1	2	3	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	136.8	137.2	81.2	81.6	122	120	82	82	32.9	33.5	10.5	10.5	2	-2	6.2	4.8	52
18	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.1	9.4	10.5	1	4	139	139.6	80.6	81	121.6	116.6	80	82	42	44	11.4	11.4	1.3	0	6	4.5	52
19	2	2	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	4	140.5	140.6	81	80	121.4	118	80	81	35.4	34.5	11.8	11.4	2	0	7	6	50
20	2	3	2	1	2	2	1	2	3	4	6.5	7.1	8.2	9.4	10.5	1	4	140.5	140.2	80.5	81	121	115.7	80	80	42	42	11.7	10.5	1.3	-3	5.4	4.8	50
21	3	3	2	1	3	3	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	140	139.4	80.7	79.7	117.5	111.4	75	74.2	84	86	27.1	26	2	0	6	4.5	50
22	2	4	2	2	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	138.8	139	80	81	118	115	78	77.5	38	31	11.5	8	2	0	5.2	4	50
23	2	2	2	1	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	140.5	141	81	80	115	122.3	77.5	77.5	41.8	41.8	12	10.8	2	-2	7	5	48
24	2	2	2	1	2	2	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	139.5	140.5	80	80	120	117.5	80	82.5	38.75	40.8	11.4	10.3	2	0	5.2	4.8	51
25	3	3	2	1	3	3	1	3	3	4	6.5	7.1	8.2	9.4	10.5	1	4	140	139.6	81.3	80.6	115	116.6	75	76.6	39.5	40.8	10	9.4	1.8	0	6	5.6	48
26	2	3	2	1	2	2	1	3	2	4	6.5	7.1	8.1	9.4	10.5	1	2	141.2	141.4	80	80.2	117.5	115.7	72.5	68.5	39.6	34	37.5	38	2	0	6.2	4.8	50
27	3	3	1	2	2	2	1	2	2	4	6.5	7.1	8.1	9.4	10.5	1	2	134	134	80.5	82.6	120	113	75	70	41.8	41.8	12	10.8	2	-2	6	4.5	50
28	2	2	2	1	2	2	1	3	3	4	6.5	7.1	8.1	9.4	10.5	1	4	139	139.6	80.6	81	121.6	116.6	80	80	42.5	44.5	11.4	11.4	1.3	0	5.6	4.3	54
29	3	2	1	2	2	2	1	2	3	4	6.5	7.1	8.2	9.4	10.5	1	4	139.5	140.5	80	80	120	117.5	80	82.5	38.75	40.8	11.4	10.3	2	0	5.4	4.8	50
30	3	3	2	1	2	2	1	3	2	4	6.5	7.1	8.2	9.4	10.5	1	2	139.6	139.2	80.8	81.6	118	118	80	76	41.5	43.5	13.2	9.9	2	0	5.2	4.8	52